

GRAIN & FEED JOURNALS

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A Merger of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter

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Directory of the Grain Trade

In Organized Markets Only Members of the Local Grain Exchange Will Be Listed

HAVING YOUR name in this directory will introduce you to many old and new firms during the year, whom you do not know or could not meet in any other way. Many new concerns are looking for connections, seeking an outlet or an inlet, possibly in your territory. It is certain that they turn to this recognized Directory, and act upon the suggestions it gives them. The cost is only \$10 per year.

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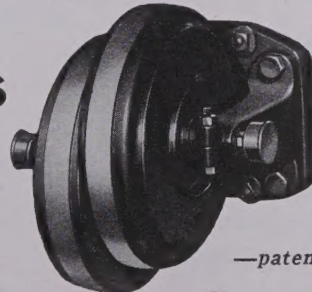
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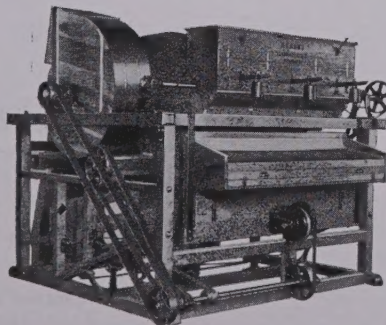
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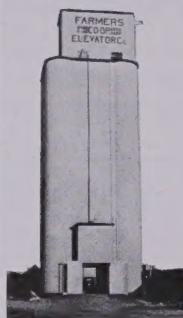
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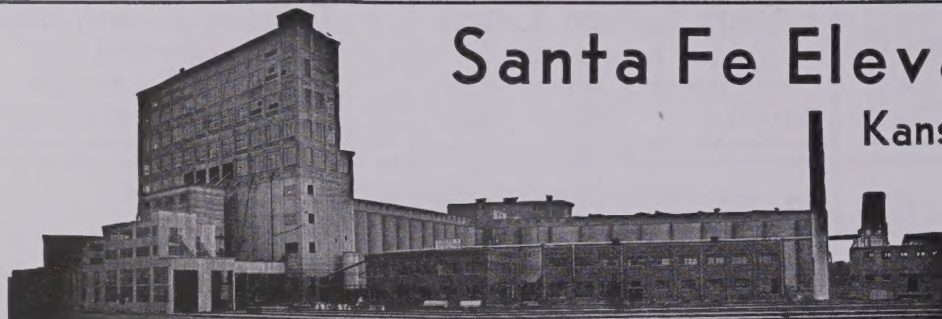
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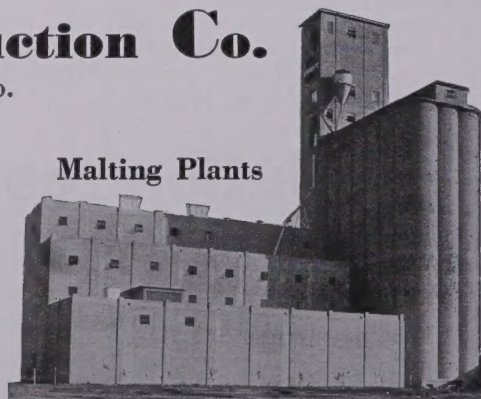
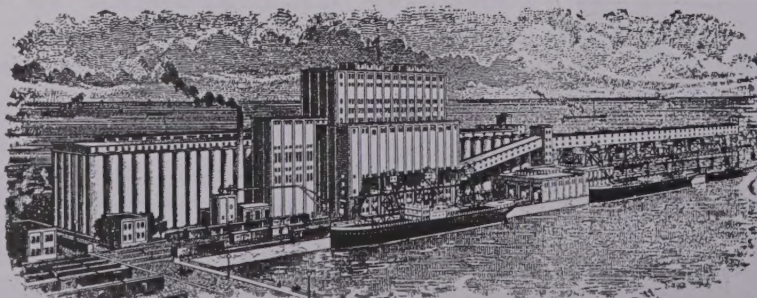
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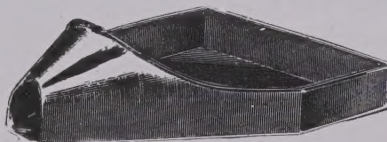
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CORN CUTTER & Grader—has motor—used very little. 84G5, Grain & Feed Jnl's., Chicago.

FEED MIXER—one ton—floor level feed—has motor—good as new. Write 84G7, Grain & Feed Journals, Chicago, Ill.

HAMMER MILL with 25-h.p. motor and all attachments. Priced to sell. Write 84G8, Grain & Feed Journals, Chicago, Ill.

GOOD new Standard Cleaner for sale, No. 132, 3 screens; has been used only 15 months. J. C. Phillips, Star City, Indiana.

FEED MIXER for sale, has motor, and a late machine. Need space. Will sacrifice. Write 84G6, Grain & Feed Journals, Chicago, Ill.

MONARCH Attrition Mill 22", two direct connected motors 15 h.p., 440 volt, new runner head, arm and shaft, new plates, very reasonably priced. Address 85T5, Grain & Feed Journals, Chicago.

SCREW CONVEYOR, 2500', 12", 9", steel casing, excellent condition, from liquidation of large plant located near Sandusky, Ohio. Consolidated Products Co., Inc., Box 545, Sandusky, Ohio.

SELL YOUR SECOND HAND Machines Now—tomorrow they will not be worth as much as they are today. A shiny machine which has just been in operation sells quicker and brings a bigger price than a dirty, rusty one.

ONE No. 10 Forster Grain Scourer in fine condition; one 39 h.p. Caterpillar power unit equipped for gasoline or natural gas in perfect running order. R. L. Groseclose, Box 804, Lewisburg, West Virginia.

WE HAVE A. C. motors ¼ h.p. to 60 h.p., shafting, hangers, pulleys, belting, bucket elevators, screw conveyors, elevator legs, heads and boots; galvanized iron bins and hoppers, reels, scalpers, aspirators, roller mills, grinders 20 ton Columbia Scale; 12" Howe batch mixer and other machinery. At sacrifice prices. Mill Equipment Co., 319 W. Chicago Ave., Chicago, Ill.

MACHINES FOR SALE

JAYBEE Portable Grinder with 50 h.p. Buda motor and feeder attached mounted on Dodge truck; cheap; excellent condition; would make good stationary outfit. Address 85W2, Grain & Feed Journals, Chicago.

FOR SALE—One No. 4 Hess Steam Grain Drier, capacity 2,000 to 3,000 bus. per 10 hours; condition first class, in fact equal to new; price \$2,750 f.o.b. cars So. Ft. Smith, Ark. Address E. E. Norris, Agt., American Syrup & Sorghum Co., So. Ft. Smith, Ark.

FOR SALE—Fairbanks Morse, Type Y, 15 h.p., Semi-Diesel motor with pump, tank and all equipment; also elevator shafting, 420 ft. drive rope, only slightly used, sheave sprockets and clutches for two stands, at a bargain. Emden Farmers Grain Co., Emden, Ill.

MACHINERY from 40 bbl. mill; complete, in excellent condition. Six nu-way stands 6"x18" rolls complete with built-in sifters. Could be used to grind and grade corn chop. Will sell all or any part exceedingly cheap. Eberhardt & Simpson Grain Co., Salina, Kansas.

THE WANTED-FOR SALE DEPARTMENT of GRAIN & FEED JOURNALS is a market place where buyer and seller, employer and employe, and those offering investments can meet to their mutual advantage and profit and it will pay every subscriber to give these columns a close study twice each month, because of the constantly changing variety of opportunities seeking your consideration.

ONE direct connected 60 h.p. Miracle Ace Hammer Mill, bargain for quick sale; one 24" Monarch double head attrition mill ball bearing direct connected to two 20 h.p. motors; one 20" Monarch double head ball bearing attrition mill direct connected to two 15 h.p. motors; two 39 Clipper Dustless Cleaners with traveling brushes and variable speed drive. D. E. Hughes Co., Hopkins, Mich.

MACHINES WANTED

POWER grain shovel, quote lowest cash price and give location. Reinders Bros., Elm Grove, Wis.

WANTED—Hess Grain Drier; size 4, 5 or 6. Must be in good condition and cheap for cash. Address 85X2, Grain & Feed Journals, Chicago.

SCALES FOR SALE

FOR SALE—Good used 20 ft. 20 ton Fairbanks-Morse truck scale; complete with beam. Wilson Grain & Coal Co., Rochester, Ind.

HERE'S A REAL SCALE BUY

Fairbanks Automatic Dial Scale, 6x4' Platform size, 10,000 lb. on dial, 1,000 lb. on single weigh-beam. Reconditioned for A-1 weighing accuracy. Write for our low prices. J. Rosenbaum & Son, Centerville, Iowa.

DIESEL ENGINES FOR SALE

DIESEL 100 h.p. Y Type Fairbanks Morse 257 r.p.m. completely equipped, perfect running condition; price is right. John Barzen, New Richmond, Wis.

MOTORS—GENERATORS**ELECTRICAL MACHINERY**

Large stock of motors and generators, A.C. and D.C., new and rebuilt, at attractive prices. Special bargains in hammermill motors, 25 to 100 H.P., 1200 to 3600 R.P.M. Write for stock list and prices. Expert repair service. V. M. NUSSBAUM & CO., Fort Wayne, Indiana.

MOTOR-PUMPS: Guaranteed rebuilt electric motors, pumps, etc. Largest stock in Illinois, outside of Chicago. Will take your equipment in trade; also offer emergency motor repair and rewinding service. Distributors for Wagner and Peerless motors, specially adapted for farm and grain elevator application. We offer free engineering advice on your problems. Write us without obligation. New illustrated bulletin No. 23, just off the press, will be mailed on request. Rockford Power Machinery Co., 6th Ave. and 6th St., Rockford, Ill.

Have You Seed For Sale?

Do You Wish To Buy Seed?

See our "Seeds For Sale—
Wanted" Department
This Number.





MULTIPLY this picture by the number of cars and trucks in this country today, and you have a miracle such as the world has never seen before—a miracle which is unmatched anywhere in the world today outside America.

It is the miracle of 25 million people owning and enjoying a mechanism as complex and competent as an automobile.

In a single year—this year, for instance—the industrial genius of America turns out some three million new cars—more than the *total* owned in any other country on the face of the globe.

Many things make this miracle possible—including the American railroads.

For mass production depends on *mass transportation*.

And what that means is this:

There are more than 17,000 parts in a single automobile—many of them made in widely scattered cities. One industrial writer has estimated that the materials in an automobile travel by rail an average of six times before the car finally rolls from the assembly line.

The materials needed for building automobiles come from every state in the union. Cotton must travel an average of 1,300 miles, copper 1,500 miles, wool 1,700 miles, lead 1,100 miles—iron and steel travel from mines to mills to factories where frames, bodies and other parts are made before arriving at the point where the cars are finally built.

So the automobile industry has come to depend on the clocklike regularity of the railroads. Many plants handle parts straight from freight car to assembly line with no stored supply or “float” of motors, frames, wheels, transmissions or other parts on hand. This helps reduce the cost of your car.

Perhaps you have never paused to consider such facts as these—any more than you have realized that much of the food you eat, the clothes you wear, most of the things you use every day were brought together from every part of the nation by rail.

As a matter of fact, that's the finest tribute anyone could pay to railroad service. It works so dependably and smoothly, you almost forget it's there.

SEE AMERICA—by Rail

You can take your car along too

NOW — TRAVEL ON CREDIT

See your ticket agent about Grand Circle Tour!



ASSOCIATION OF AMERICAN RAILROADS

WASHINGTON, D. C.

From Abroad

Italian wheat prices have been raised to \$2.12 per bu.; and a decree has ordered bread to contain 15% corn flour, effective Dec. 1.

Italy's government has decreed increased prices to be paid farmers for certain grains. The increases are 20% over those fixed for 1939 crops.

The British government's war risk insurance program has raised its monthly premium on commodities from 5 shillings per £100 valuation to 7 shillings and 6 pence.

Japan's rice crop is the smallest since 1935, first official estimates placing it at 574,000,000 bus., compared with 627,000,000 bus. harvested in 1939, reports the American agricultural attache at Shanghai.

Germany's people were rationed to 56 ounces of bread each per week during World War I. This figure has now been allotted to Belgium under German control. Poland's allowance has shrunk to 35 ounces of bread per person per week.

Spain's wheat crop after harvest was reported at 120,000,000 bus., compared with pre-war production of 150,000,000 to 180,000,000 bus. Spain normally requires 135,000,000 bus. of wheat per annum, and fear is expressed that its grain stocks will be exhausted by Jan. 1.

Ottawa, Ont.—Hon. J. G. Gardiner, speaking before the House of Commons, anticipated two years of waiting before the expected British offensive would make possible the sale of Canadian grain to blockaded countries. In the three years that follow he expects the United Kingdom to take 800,000,000 bus.

The Argentine government's third and final estimate of that country's 1939-40 corn crop is 408,464,000 bus., a reduction of 10,500,000 bus. from the preliminary forecast, but still a record crop. Small exports have left the country with 280,000,000 bus. of corn over and above all normal requirements, creating a problem in storage. The government is asking farmers to hold the grain on the farm.

Australia's wheat will be marketed thru a government agency which proposes to pay farmers equal to 56½¢ per bu. for a crop not exceeding 140,000,000 bus. in any one year. Should the domestic price rise above this bottom, farmers will receive the first 2½¢ per bu., the revolving fund will receive the next 5¼¢, and additional rises will be shared equally. Farmers are being forced to diversification, and those on marginal land will be taken out of wheat production.

Winnipeg, Can.—World trade in oats has suffered more severely from the loss of continental European markets and from the general effects of the war than has world trade in any other of the principal cereal crops, with the possible exception of rye. Weeks pass without Broomhall recording any movement of oats overseas. In the years immediately preceding the Great Depression, world trade in oats amounted to 100,000,000 bus. annually.—James Richardson & Sons, Ltd.

The Swiss government has confiscated the 1940 crop of bread grains and all reserve stocks of wheat, rye, spelt and mixtures of these grains. Delivery of all wheat stocks to the federal wheat administration at fixed prices has been decreed, and other transactions in bread grains have been prohibited. Belief by government officials is that farmers will use bread grains for feed because of the growing shortage of fodder needed to feed the large numbers of cattle and hogs still in the country. Difficulty in importing fodder has led to fodder prices climbing above those of domestic wheat.

GRAIN & FEED JOURNALS

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Established 1844

Published on the second and fourth Wednesdays of each month in the interests of better business methods for progressive wholesale dealers in grain, feed and field seeds. It is the champion of improved mechanical equipment for facilitating and expediting the handling, grinding and improving of grain, feeds and seeds.

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THE ADVERTISING value of the Grain & Feed Journals Consolidated as a medium for reaching progressive grain, feed and field seed dealers and elevator operators is unquestioned.

Advertisements of meritorious grain elevator and feed grinding machinery and of responsible firms who seek to serve grain, feed and field seed dealers are solicited. We will not knowingly permit our pages to be used by irresponsible firms for advertising a fake or a swindle.

LETTERS on subjects of interest to those engaged in the grain, feed and field seed trades, news items, reports on crops, grain movements, new grain firms, new grain elevators, contemplated improvements, grain receipts, shipments, and cars leaking grain in transit, are always welcome. Let us hear from you.

QUERIES for grain trade information not found in the Journal are invited. The service is free.

CHICAGO, ILL., November 27, 1940

OVERBIDDING contests cause much dissatisfaction among growers and no profits for the contestants.

WINDSTORM insurance proved a happy investment for many grain elevator operators on Armistice Day.

LOCAL associations and group meetings do more to promote friendly relations among country dealers than any other factor.

BY hammering away at our Congressmen we may yet get the Logan-Walter bill enacted into law, and thus afford merchants a small measure of protection from arbitrary rulings of the bureaucracy thru an appeal to the courts.

ENTOMOLOGISTS of the corn belt met at Des Moines, Ia., recently and resolved to begin an early campaign for the control of chinch bugs. The damage done by this pest last summer was so great, the experts of the corn belt states are determined to plan the early extermination of the pest next spring.

WHILE corn that was harvested early contained excessive moisture, later huskings were greatly improved by the low temperature, the middle of the month, and new corn is now being cribbed without fear of deterioration.

A MODERN 30-ton truck scale is needed to give every grain buyer confidence in his own weights, and the more confidence he has in the accuracy of his weighing equipment, the better satisfied will be his customers.

OWNERS of sealed corn in some parts of the corn belt are ignoring their collateral deposited for government loans and buying new corn at several cents below the loan value of old corn. Shrewd borrowers always look out for their own interests first.

GRAIN MEN at outside points doing any volume of trading on the Chicago Board may profit by the purchase of a membership at the very low prices now ruling, as the reduced rates of commission accorded members will more than pay the annual dues and assessments.

SINCE soybean oil meal may be substituted for cottonseed oil meal in many feeding rations it is a sufficient explanation for the rise in the price of soy meal and of soybeans to note that cottonseed meal has advanced from \$21 a ton at Memphis Sept. 21, when Decatur soy meal sold at the same price, to \$28.50 Nov. 16.

A SAFE MARGIN is more essential to the success of a country grain buyer than an elevator. Overbidding the market makes trouble for every buyer of the district and generally heavy losses for all buyers greedily striving to attract grain from adjoining territory. Better buy grain right or let some one else handle it.

INSPECTING the elevator before leaving for the night, an Elkhart, Kan., manager detected smoke arising from around one of the elevator legs. Investigation showed cause was a short in the switch box. Needless to say, the current was turned off and the fire soon extinguished with small loss, but the experience proved conclusively the great advantage of inspecting the plant before closing for the day.

THRESHERMEN who cast aspersions on the weights of grain buyers are very likely to get into trouble when they undertake to divert farmer patronage to their favorite buyer by misrepresenting the facts. Slander is a most expensive diversion and seldom attains the end sought. Grain buyers who discover that their weights are being misrepresented can generally obtain a retraction by the offender with little difficulty, because suits for slander are extremely expensive.

CREDIT on sales of side lines in a community of considerable size is best granted on information co-operatively supplied by local merchants to a central credit bureau.

BULK handling of grain in the Pacific Northwest has met such rapid gains during the last three years that over 76 per cent of the October receipts of wheat at Portland was in the form of bulk shipments. The bag manufacturers did everything in their power to discourage the adoption of bulk handling but now seem to be resigned to the adoption of bulk handling facilities.

THE MECHANICAL corn picker may reduce the labor and time required to harvest a corn crop, but the extra supply of stalks and husks make it extremely difficult for shellers to save all the corn, so buyers are justified in discounting every load heavily laden with refuse. Its presence increases the fire hazard of the elevator, the cost of cleaning the grain for shipment and increases the amount of corn lost.

A CARELESS driver drove a truck heavily laden with wheat onto the middle of a scale at a Michigan mill and the platform collapsed. Small capacity scales can not be expected to withstand the enormous loads now generally carried by the large trucks. Owners of small capacity scales should post signs prominently warning truckers with heavy loads to KEEP OFF. An accident resulting in injury to the driver may be followed by an expensive suit for damages.

CLOSING of the Winnipeg wheat futures market for the duration of the war, as suggested by the Saskatchewan wheat pool at its annual meeting in a resolution declaring that the Winnipeg marketing machinery is about as useful as a fifth wheel on a wagon and serves no useful purpose in the marketing of the Canadian wheat crop, exposes a deplorable ignorance of the efficiency of the organized grain markets in distributing at a lower spread between producer and consumer than is exacted by handlers of other commodities.

THE reluctance with which government agencies let go of the handling of public money is exemplified by the dairy products marketing association, which has been manipulating the butter market for two years with \$33,375,000 lent by the C.C.C. Butter having risen to a point where a higher price would rob the consumer, and having sold out at a profit of half a million this organization instead of returning the proceeds to the government prefers to buy milk of which there is no surplus. Following the precedent of the Farmers National Grain Corporation it should contrive in some way to lose money, even if it has to sell butter short as the Grain Corporation did corn.

MANY STATIONS of the corn belt are assembling numerous new steel tanks, because the old tanks are full of 1938 and 1939 corn. The CCC must provide a safe storage room for the collateral, which the growers do not care to redeem and would be foolish to redeem when they can buy new corn in the open market for less money. But the bureaucrats have not yet discovered what is to become of the corn or the bins. Helping corn growers to speculate in indemnities may please the farmers, but is not likely to profit the Government.

LET US HOPE that our lawmakers in federal and state capitols will heed the implications carried in a recent poll by the American Institute of Public Opinion in which the question was asked, "During the next four years do you think there should be more or less regulation of business by the federal government than at present?" It is significant that only 27 per cent called for more business regulation, while 51 per cent called for less. To meet the popular demand it seems that the Washington administration must right-about-face, since besides frowning upon persecution of business the poll showed 60 per cent in favor of more regulation of labor unions and only 21 per cent less.

THE HAZARD of attempting to fumigate a grain bin with a strong gas was again emphasized when a Waterman, Ill., grain elevator operator attempted to fumigate several bins with the result that he was overcome by the gas and fell headlong into a deep bin. Fortunately, a brave workman was able to enter the bin and bring out the body of his employer. A pulmotor from a nearby town helped to revive both men and save their lives. If elevator men are to use poisonous gas, then they should first provide for ladder and a pulmotor to save them in case anything did happen. The loss of one or two lives is so great a sacrifice, it is all out of proportion to the small amount of grain that might be saved from the weevil.

ELEVATOR OWNERS who have long made it a practice to keep fire extinguishers at different points of advantage about their plants will be pleased to learn that the Underwriters Laboratories, after careful compilation of fire records, announce over 50 per cent of all fires occurring in industrial plants are extinguished by hand fire fighting appliances. If all grain elevators were so equipped and this equipment inspected occasionally to make sure all are in prime working condition then more fires would be extinguished by such equipment. Water barrels and buckets have a most enviable reputation for efficient work and it is not expensive to keep barrels filled with non-freezing solution at points of advantage in every elevator.

Government Must Get Out of the Grain Business

Altho the federal administration has accumulated nearly 700,000,000 bus. of corn and wheat in a vain effort to manipulate the grain market the farmers of the Central West are dissatisfied. The wheat and corn growers see that the value of the grain in store will be eaten up in the course of time by heavy storage charges, interest and other expenses incident to carrying grain from one year to another.

The government could buy one of the biggest battleships every year with the money lost in storage charges.

Let no one deceive himself: these storage charges must be paid by someone.

If the consumers and the grain growers do not want the ever normal granary why persist in this folly that leads the federal government into competition with its own taxpayers in the grain business?

Is the recent extension of the corn loan to a 3-year period a recognition by the administration that unless they tie the growers down by a long-time contract they may repudiate the program within a year or two?

Your Income Tax Schedule

New laws increasing taxes on net incomes will no doubt encourage grain merchants to exercise greater vigilance in compiling their reports. The calculation of taxable income for determining the income tax due for any year is accompanied by so many perplexing problems, the preparation of the annual tax schedule is becoming more and more difficult each year. In view of the difficulty of recovering taxes erroneously computed and paid, it is most important that every income tax payer carefully compute every loss and gain in hope of correctly computing the tax due before any payments are made.

One deduction which many tax payers seem to have overlooked is the losses of property due to fire, windstorm, wreck, casualty and theft. Few operators of grain elevators or feed mills have deducted for losses due to the wrecking of a truck or an automobile which was not covered by insurance. The burning out of a motor or the bursting of a boiler or the wrecking of any elevator machinery is generally considered deductible as is also any loss due to grain infesting insects, midnight robbers or daylight swindlers.

Losses of this character are generally overlooked by the elevator man, but whenever he can prove his loss, he should have no hesitation in deducting it from his net income; however, complete proof of his loss will be needed to satisfy the income tax inspector.

Regulation of Itinerants

The unfair competition by itinerant truckers is harmful to the business of dealers in grain, coal and lumber everywhere, and in the central states the trade has been aroused to attack the problem.

An organized effort is being made to combat the evil without much success so far in the central states.

Greater progress has been made on the Pacific Coast and particularly in California in analyzing the problem and devising means to divorce the purchase and sale of commodities from the occupation of operating a highway truck.

Recognizing that effective work requires the aid of all agencies a conference was held two weeks ago in the office of the California Railroad Commission including the district director of the Interstate Commerce Commission, the chief of the state feed law enforcement, the head of the market enforcement bureau, a representative of the California Truck Ass'n, the attorney of the Fruit & Produce Dealers, and for the California Hay, Grain & Feed Dealers Ass'n, its secretary, transportation committee chairman and concentrate division chairman.

It was developed at the conference that the Interstate Commerce Commission permit to operate over state lines covers the equipment, and the use of such for-hire equipment is restricted. Altho the trucker has such a permit, if he undertakes to haul such concentrates as beet pulp, oil cake, fish meal, etc., that are processed products he would come under the feed law. If the misuse of the truck operates to disrupt the rate structure the Railroad Commission has jurisdiction.

The conclusion is that buying and selling operations must be divorced from the licensed for-hire trucking by requiring such business and trading to be done on separate equipment. It is hoped that by co-operation of the legitimate trucking industry with the merchants a bill can be drafted for presentation to the legislature that will accomplish the desired end and preserve the public interest.

Should California enact a law that the courts will sustain and that effectively restrains the itinerant trucking merchant it will be copied speedily by other states.

Your Success

He has achieved success who has lived long, laughed often and loved much.

Who has gained the trust of pure women, the respect of intelligent men, and the love of little children.

Who has filled his niche and accomplished his task.

Who has left the world better than he found it, whether by a better mouse trap, an improved poppy, a perfect poem or a rescued soul.

Who has always appreciated earth's beauty and has never failed to express it.

Who has always looked for the best in others and always given the best he had.

Whose life has been an inspiration; whose memory a benediction.—Mrs. A. J. Stanley.

Long Hours Necessary to Save Grain at Harvest Time

Handlers of grain, soybeans, flaxseed and buckwheat will be glad to take advantage of the hearing Dec. 9th at Chicago to support their contention that they should be exempt from the maximum hour provision of the so-called Fair Labor Standards Act, as is announced on page 441 this number.

The combine, the large trucks and the general rush of grain from the harvest field to the elevator each season should be enough to prove that the marketing of these farm products is of a seasonable nature and hence fully supports the grain trade's contention that longer hours must be worked during the rush of these grains to market in order to care properly for them.

During the movement, extra men are generally employed to receive and store these food products and, of course, the minute there is a let-up in the movement to the elevator, extra help is needed to clean and save the grain from heating, so that it is imperative that the elevator be kept in operation longer hours until there is a let-up in the movement from the farm to the elevator. During the rest of the year, fewer helpers are needed and the working of long hours is no longer necessary.

Hearing on Seasonal Exemption of Grain Storage

A public hearing on applications for exemption from the maximum hour provisions of the Fair Labor Standards Act for the storing of grain, including soybeans, flax and buckwheat, separately, or in combination with grass or legume seeds, as industries of a seasonal nature was set today by Colonel Philip B. Fleming, Administrator of the Wage and Hour Division, for 10:00 A. M., Dec. 9, 1940, at the Chicagoan Hotel, Chicago, before Harold Stein, assistant director of the hearings branch of the Division.

The hearing was scheduled on the applications of the National Grain Trade Council, the Millers' National Federation, and others.

The notice of hearing (Federal Register, Nov. 23, 1940) stated that those desiring to be heard must file a notice of intention to appear with the Administrator at his office in Washington prior to 1:00 P. M., Dec. 7, or at the hearing room in Chicago on or before 10:00 A. M., Dec. 9, giving the name of the organization they represent, whether they are in favor of or opposed to the proposed exemption, and how long their presentation will take. A written statement may be filed in lieu of personal appearance.

If the exemption is granted, employees engaged in the storage of grain may be worked up to 12 hours a day and 56 hours a week without payment of time and a half for a period of 14 weeks during any year.

Elevators shipping corn stored for the Commodity Credit Corp. are urged to screen out the rat dirt where they have assumed responsibility for grade, says a recent bulletin of the Federal Grain Supervision. Corn containing in excess of 0.2% rodent excreta is considered to be distinctly low quality, and inspection rules call for application of the designation, "Sample Grade."

Changes Proposed in Grades for Oats and Rye

The proposed amendments to the rules governing the grading of oats and rye will no doubt receive the hearty approval of handlers of these grains at the six formal hearings announced elsewhere in this number.

According to the Agricultural Marketing Service, "The rye that is shipped from country points to terminal markets ordinarily contains only a small percentage of thin kernels and would properly be classified either as 'plump rye' or 'rye' with only a minor portion being classified as 'thin rye.'

"It is estimated on the basis of tests made on representative samples of the primary receipts of rye for the 1938, 1939, and 1940 crops that in an average year 80 per cent of the receipts would grade 'straight' without the addition of either the special grade 'Plump' or the special grade 'Thin'; that about 10 per cent of the receipts would grade 'Plump' and 10 per cent would grade 'Thin.' In a year like 1940, however, only 3 per cent would grade 'Thin,' 29 per cent would grade 'Plump,' and 68 per cent would not require the addition of either special grade.

"The specifications of the proposed amendments to the rye standards would be approximately as follows:

"PLUMP RYE.—Rye which meets the requirements for any of the grades from No. 1 to Sample grade, inclusive, and which, when free from dockage, does not contain more than 5 per cent of rye and other matter that will pass through a 20-gage metal sieve with slotted perforations .064 inch wide by $\frac{3}{8}$ inch long shall be classified as 'plump' rye. For such rye the word 'Plump' shall be added to and made a part of, the grade designation. (Example, 'No. 1 Plump Rye.')

"THIN RYE.—Rye which meets the requirements for any of the grades from No. 1 to Sample grade, inclusive, and which, when free from dockage, contains more than 20 per cent of rye and other matter that will pass through the slotted sieve described above shall be classified as 'thin' rye. For such rye the word 'Thin' shall be added to, and made a part of, the grade designation. (Example, 'No. 1 Rye, Thin.')

Proposed Amendment to the Standards for Oats

"In recent years there has been a large increase in the production of red oats that are known in the grain trade as Columbia oats. Columbia oats are properly classified under the standards for oats as Red Oats. These oats are usually comparatively large and plump in size and have physical characteristics which are desired by the oats millers and processors.

"It has been represented to the Department that Columbia oats have been discounted in price under white oats in certain merchandising channels for the reason that the official inspection of such oats merely labels them as Red Oats and fails to differentiate between Columbia red oats and other red oats. Tests within the Department and at State experiment stations, however, indicate that Columbia red oats have utility values fully equal to white oats, when found in the same competitive merchandising channels as white oats. It is the feeling among producers and many dealers that if a separate classification were provided for Columbia red oats, such oats would find their proper level in the price structure. To this end the Department is proposing a special grade designation to be known as 'Special Red Oats.'

"The specifications for the proposed amendment to the oats standards would be approximately as follows:

"SPECIAL RED OATS.—Special Red Oats shall be Red oats of the type or variety known as Columbia oats and other oats having similar characteristics, and may include not more than

10 per cent of other cultivated oats. For such oats the word 'Special' shall be added to, and made a part of, the grade designation. (Example, 'No. 1 Special Red Oats.')

Washington News

The Senate has voted consideration of the Walter-Logan bill which would curb powers of government agencies by prescribing uniform procedure for quasi-judicial government agencies. The bill would expedite appeals to the courts from decisions of such agencies. The House passed this bill last June.

C. C. Farrington, former assistant director of the western division of the Agricultural Adjustment Administration, has been named vice president of the Commodity Credit Corp., to succeed John D. Goodloe, resigned. Leon O. Wolcott, former assistant to the Sec'y of Agriculture, has been named sec'y of the C.C.C.

Senator William H. King of Utah has introduced a bill in the Senate to modify the Johnson Act to permit private corporations and government agencies to make loans and extend credit to foreign nations for purchase of agricultural commodities for export. Purpose is to permit loans to Britain. The Johnson Act bans loans to foreign governments in default to the U. S.

Representative Howard W. Smith, of Virginia, has warned that a united country for defense is impossible so long as the National Labor Relations Board is "impregnated and honey-combed with ideas and philosophies unknown to the American system. We hear from high sources appeals for unity. At the same time this creature of government (the labor board) lays the lash upon the backs of those to whom the appeal is made."

Elevator Operator May Ship Stored Grain

The Agricultural Adjustment Act has been amended, effective Oct. 8, 1940, as follows:

"Sec. 8f. No person operating a public warehouse for the storage of any basic agricultural commodity in the current of interstate or foreign commerce shall deliver any such commodity upon which a warehouse receipt has been issued, and is outstanding without prior surrender and cancellation of such warehouse receipt, except that any person operating a country public grain warehouse or warehouses may, because of lack of sufficient space to accommodate all depositors, move storage grain out of such warehouse or warehouses to another warehouse for continuous storage under such regulations as the Secretary of Agriculture may prescribe.

"A non-negotiable warehouse receipt shall be issued by the warehouseman to whom the grain was shipped, and said receiving warehouseman shall give such guaranty and shall store such grain under such regulations as the Secretary of the Agriculture may prescribe to assure delivery to the rightful owner of such grain in the amount and of the kind, quality, and grade called for by his receipts.

"Any warehouseman who intends to ship grain while his original receipt is outstanding must recite in his receipt both the name and address of his warehouse as well as that of the warehouse to which the grain may be shipped for further storage. All grain shipped under this section must be shipped under a non-negotiable B/L. Any person violating any of the provisions of this sub-section shall, upon conviction, be punished by a fine of not more than \$5,000.00 or by imprisonment for not more than two years, or both. This Act shall not be construed as amending or changing in any manner the United States Warehouse Act of Aug. 11, 1916, as amended."

Asked—Answered

[Readers desiring trade information should send query for free publication here. The experience of brother dealers is most helpful. Replies to queries are solicited.]

Data on Loss in Drying Shelled Corn

Grain & Feed Journals: We would like to have data on loss in drying shelled corn—Winchester Milling Co., Canal Winchester, O.

Ans.: The table below shows the weight of 1,000 bus. of corn when dried down from original moisture content of 14½ to 24 per cent to a uniform 14 per cent; and similarly for corn dried down from original moisture of 15½ to 25 per cent to a uniform 15 per cent.

Referring to the table, for example, 1,000 bus. corn dried down from 20 per cent to 14 per cent would weigh 930.23 bus., a loss of 69.77 bus.

The author of the tables, T. H. Minary, Jr., of Louisville, Ky., goes farther and works out the more important question of the increased price of the corn to cover the shrinkage in the number of bushels, at various prices from 55 to 59 cents per bushel.

Wage and Hour Law Applies to Grain Shipped In

Grain & Feed Journals: We have 5 regular places where we buy grain and seeds and retail feed, seeds, etc. We employ about 20 men at these 5 places with no place more than 6. We buy cream, eggs and poultry at 2 of these places.

At Pattonsburg we manufacture corn meal part of which is sold to a wholesale grocer for resale within Missouri. We supply a small

amount of flour, meal and corn chop at wholesale to other stores for resale, all of which is sold in Missouri. Less than one per cent of our business is wholesale. Most of our grain is shipped in car loads to Kansas City and St. Louis with an occasional car out of the state. Years when we don't raise crops here we ship in grain and feed in car loads, mostly from K. C., Mo. We buy tankage in car lots or truck loads from K. C., Kan. Practically all of our grain comes from this immediate territory. We do have two truckers who haul us grain 3 or 4 times each week from up in Iowa. The average haul on their grain is 100 miles. We retail field seeds part of which comes from out of the state.

With exception of the small amount of wholesale business done nearly all of business is done with the farmers in this territory.

If we do come under the Act for example on wholesale merchandise sold and the corn coming from Iowa, can we put one man under this without all coming under it? Or if we feel it is better to discontinue buying Iowa corn or wholesaling would this eliminate our trouble? If we have to put the man under it that handles wholesale stuff and the Iowa grain, can we put a different man each week so that all the men will get advantage of the short week occasionally. We want to get right if we are not right.

If we are right we don't want to make any changes.

We buy some grain at other places than the five regular places where we pay the buyers a commission.—H. H. Green M. & E. Co., H. H. Green, Pattonsburg, Mo.

Ans.: Men working at the five places taking in grain and seeds from the "area of production" are exempt.

The men employed in manufacture of feed at Pattonsburg are exempt as the product is practically all retailed within the state.

The men hauling corn from Iowa into Missouri are covered by the Act. If they work for a contractor independently the Pattonsburg mill is not their employer and is not responsible. If the Pattonsburg mill pays the wages of the truckers from Iowa it is responsible.

If one man is put at work trucking corn from Iowa the others not doing so are exempt. A man may be exempt one week and not the next week, depending on his work. The law recognizes the week as the unit. The week may begin at any hour and run for 7 consecutive days.

A man helping to unload the interstate corn shipment would be under the Act.

Manufacturer Retailing Feed Is Exempt

Grain & Feed Journals: As we see the ruling, if you are a manufacturer of feed, you are under the regulations; there seems however, to be so many exceptions that we do not know where we are, and even the references furnished by the department, don't fix the status. We manufacture our own feed and sell it locally to the farmer, no out of state business except what grain is sold to nearby brokers and shipped to their order.—Detrick Grain & Merc. Co., Tippecanoe City, O.

Ans.: If the grain sold to brokers originates within the "Area of Production" employees so engaged are exempt. If the feed manufactured

DRYING

To

14 %

INCLUDES COST OF LOSS IN WEIGHT ONLY—
DOES NOT INCLUDE ELEVATOR COST OF DRYING

% MOISTURE BEFORE DRYING	14½	15	15½	16	16½	17	17½	18	18½	19	19½	20	20½	21	21½	22	22½	23	23½	24
% MOISTURE AFTER DRYING	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Net Bu. from M.	974.19	988.37	982.56	976.74	970.93	965.12	959.30	953.49	947.67	941.86	936.05	930.23	924.42	918.60	912.79	906.98	901.16	895.35	889.53	883.72
% INCR. COST	.59	1.17	1.77	2.39	3.00	3.62	4.24	4.88	5.52	6.17	6.84	7.50	8.18	8.86	9.55	10.25	10.96	11.69	12.42	13.16
55¢	55.32	55.64	55.97	56.31	56.65	56.99	57.33	57.68	58.04	58.39	58.76	59.13	59.50	59.87	60.25	60.64	61.03	61.43	61.83	62.24
56	56.31	56.66	56.99	57.34	57.68	58.03	58.37	58.73	59.09	59.46	59.83	60.20	60.58	60.96	61.35	61.74	62.14	62.55	62.96	63.37
57	57.33	57.67	58.01	58.36	58.71	59.06	59.42	59.78	60.15	60.52	60.90	61.28	61.66	62.05	62.44	62.84	63.25	63.66	64.08	64.50
58	58.34	58.68	59.03	59.39	59.74	60.10	60.46	60.83	61.20	61.58	61.97	62.35	62.74	63.14	63.54	63.95	64.36	64.78	65.20	65.63
59	59.34	59.69	60.04	60.41	60.77	61.14	61.50	61.88	62.26	62.64	63.04	63.43	63.83	64.23	64.63	65.05	65.47	65.90	66.33	66.76

INCLUDES COST OF LOSS IN WEIGHT ONLY—
DOES NOT INCLUDE ELEVATOR COST OF DRYING

DRYING

To

15 %

CALLAHAN & SONS, INC.
LOUISVILLE, KY.
T. H. MINARY, JR.

% MOISTURE BEFORE DRYING	15½	16	16½	17	17½	18	18½	19	19½	20	20½	21	21½	22	22½	23	23½	24	24½	25
% MOISTURE AFTER DRYING	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Net Bu. from M.	992.12	988.24	982.36	976.47	970.59	964.71	958.82	952.94	947.06	941.18	935.29	929.41	923.53	917.65	911.76	905.88	900.00	894.12	888.24	882.35
% INCR. COST	.59	1.19	1.80	2.41	3.03	3.66	4.30	4.94	5.59	6.25	6.92	7.60	8.28	8.98	9.67	10.39	11.11	11.84	12.59	13.34
55¢	55.32	55.65	55.99	56.33	56.67	57.01	57.37	57.72	58.07	58.44	58.81	59.18	59.55	59.94	60.32	60.71	61.11	61.51	61.92	62.34
56	56.33	56.67	57.01	57.35	57.70	58.05	58.41	58.77	59.13	59.50	59.88	60.26	60.64	61.03	61.42	61.82	62.22	62.63	63.05	63.47
57	57.34	57.68	58.03	58.37	58.73	59.09	59.45	59.82	60.19	60.56	60.94	61.33	61.72	62.12	62.51	62.92	63.33	63.75	64.18	64.60
58	58.34	58.69	59.04	59.40	59.76	60.12	60.49	60.87	61.24	61.63	62.01	62.41	62.80	63.21	63.61	64.03	64.44	64.87	65.30	65.74
59	59.35	59.70	60.06	60.42	60.79	61.16	61.54	61.91	62.30	62.69	63.08	63.48	63.89	64.30	64.71	65.13	65.55	65.99	66.43	66.87

is sold locally "at retail" to anyone, farmers and others, the employees so engaged also are exempt.

If more than 7 are employed the exemption for handling products coming from within the area of production is lost.

The Act applies only to persons employed in interstate commerce; and when the employer has reason to believe his product will move in interstate commerce after leaving his control.

Area of Production Applies to Crops, Not Coal

Grain & Feed Journals: Will you kindly advise me as to the wage and hour law. I am in the grain and coal business, and employ two men, shipping grain in interstate commerce.

As I interpret the law, any one that employs fewer than seven employees and is located in the area of production, is exempt. Would appreciate your opinion on this matter as I have been unable to get a definite answer regarding this matter.—E. A. Tappan, Belle Plaine, Ia.

Ans.: Nearly every small business man who attacks the problem of the wage and hour law (The Fair Labor Standards Act) does so from the wrong viewpoint.

He attempts to determine its application to his activities as a business enterprise, as a unit whereas the law attacks the problem from the standpoint of the "individual" worker.

It is not what the business does, it is what the worker does, that counts.

An employer operating with several men each of whom participates in the several operations, some of them handling products that move in interstate commerce and others handling products that do not, could classify his operations and segregate those not handling products in interstate commerce, so that instead of all his employees coming under the law, certain others would not. If the intrastate employee worked in a building separate from that occupied by the interstate employee their exemption would be obvious. The exemptions would apply if only a partition wall in the same building separated the two classes of employees, or even tho not separated by a wall, if they handled no interstate goods.

It is useless therefore for a proprietor to seek for a rating on his establishment based on the kind of business, in general, that he is doing.

To be on the safe side any analysis of the application of the law must be based on a consideration of the work done by each employee.

If the work is interstate and all employees participate no individual analysis is necessary, all come under the law.

Thus, an employee handling grain within the "area of production" is exempt. If this same individual also handles coal or lumber from outside the state he is not exempt. If one man handles the grain only and another the coal or lumber one is exempt even tho shipping out grain in interstate commerce, and the other not, altho both men are working out of the same establishment and for the same employer.

As the coal handling is not exempt under the "area of production" clause the men so employed can come under the law.

Assuming that the inquirer E. A. Tappan, employs the two men indiscriminately in handling coal from outside the state as well as grain, both come under the law. Assuming that the coal sales are retail and in intrastate commerce both men are exempt. It is for the inquirer, Mr. Tappan, to decide whether his coal sales are retail or wholesale. The paragraph of the exemption regulation reads: "Employees engaged in any retail service establishment the greater part of whose selling or servicing is in intra-state commerce."

It is stated in the Employers Digest issued in October, 1940, by the Wage and Hour Division that: "The Wage and Hour provisions of the Act apply to each employee engaged in handling or in any manner working on goods which move in interstate commerce." "An employee is covered by the Act even if a small percentage of the goods he works on is moved in interstate commerce."

The provisions of the interpretative ruling effective October 1, 1940, are as follows:

1. An individual shall be regarded as employed in the "area of production" within the meaning of Section 13 (A) (10), handling, packing, storing, ginning, compressing, pasteurizing, drying, preparing in their raw or natural state, or canning of agricultural or horticultural commodities (except perishable or seasonal fresh fruits or vegetables) for market, or in making cheese or butter or other dairy products:

(a) if he performs those operations on materials all of which come from farms in the general vicinity of the establishment where he is employed and the number of employees engaged in those operations in that establishment does not exceed seven, or

(d) if he performs those operations on ma-

terial all of which come from farms in the immediate locality of the establishment where he is employed and the establishment is located in the open country or in a rural community. As used in this subsection (d) "immediate locality" shall not include any distance of more than ten miles and "open country" or "rural community" shall not include any city or town of 2,500 or greater population according to the 15th United States Census, 1930.

Ethylene Oxide Fumigant?

Grain & Feed Journals: We have read with interest the article published in the Nov. 13th issue, page 398, headed "Fumigating with Ethylene Oxide." We have found in investigating the possibilities of using ethylene oxide mixed with carbon dioxide, that carbon dioxide may be secured in liquid form as well as in block form; however, there seems to be some danger attached to handling this commodity in a liquid form due to the high pressure in which it is sealed in cylinders. Advice on this subject will be appreciated.—Universal Mills, R. T. Baker, Vice-Pres. in charge of Production, Fort Worth, Tex.

Ans.: Carbon dioxide gas has the same effect on insects whether coming by evaporation from the liquid or sublimation from the solid. It is a matter of convenience and economy. The steel cylinders of liquid are not in danger of exploding as the pressure is not high.

Anyone may purchase the two liquids in the steel cylinders and mix them into the grain; but since the mixture is purchasable already mixed under a trade name by the firm which makes the ethylene, it is more convenient to use the ready mix, as it can be stored for use, whereas the dry ice sublimates away about five per cent a day. Liquid carbon dioxide is the other ingredient of a liquid fumigant made with methyl bromide.

Coming Conventions

Trade conventions are always worth while, as they afford live, progressive grain dealers a chance to meet other merchants from the same occupation. You can not afford to pass up these opportunities to cultivate friendly relations and profit by the experience and study of others.

Dec. 3, 4, 5. Western Grain & Feed Ass'n, Des Moines, Ia.

Dec. 7. Colorado Seedsmen's Ass'n, Denver, Colo.

Dec. 11. Wisconsin Seed Dealers Ass'n, probably at Portage.

Dec. 10, 11, 12. Farmers Elevtr. Ass'n of South Dakota at Lincoln Hotel, Watertown, S. D.

Jan. 13, 14. Northwest Retail Feed Ass'n, Hotel St. Cloud, St. Cloud, Minn.

Jan. 27. Farm Seed Group of the American Seed Trade Ass'n at the Palmer House, Chicago, Ill.

Jan. 27, 28. Indiana Grain Dealers Ass'n, Columbia Club, Indianapolis, Ind.

Jan. 28, 29, 30. Farmers Grain Dealers Ass'n of Iowa, Savery Hotel, Des Moines, Ia.

Feb. 4, 5, 6. Farmers Grain Dealers Ass'n of North Dakota, Grand Forks, N. D.

Feb. 18, 20. Minnesota Farmers Elevator Ass'n, Hotel Radisson, Minneapolis, Minn.

June 9, 10, 11. Society of Grain Elevator Superintendents, Minneapolis, Minn.

Wichita, Kan.—A hoe, and old-fashioned muscle work to clean out the straggling weeds that escape machine operations, is the way to conserve moisture in summer fallowing semi-dry land soil, says J. J. Buser, owner of several wheat farms in the dust bowl of Kansas. He specifies farming methods for his tenants, contends that weeds on summer fallow ground dissipate moisture to the detriment of the wheat crop that is to follow. He reports his western Kansas farms produced 24 bus. of wheat to the acre last season, when the average in the same territory was only 5 bus., and his average for the last six years has been 18.8 bus. to the acre, which is about 50 per cent above the average for the state.

Iowa Ass'n Prepares Lively Program

A lively program that promises broad coverage of the problems confronting country grain elevator operators, feed dealers and seedsmen, has been prepared for the annual convention of the Western Grain & Feed Ass'n, which will be held at the Fort Des Moines Hotel, Des Moines, Ia., Dec. 3, 4 and 5.

Sec'y H. E. Theile has arranged a spot on the program for each division of the grain, feed, and seed trade. Here is the program:

DEC. 3, Tuesday: President Hugh Hale, Royal, will preside at the business session which opens at 10 o'clock a. m. Ray Spatz, of the Iowa Motor Vehicle Registration Division, will do the welcoming. The morning will be devoted to a forum on the government corn program. Participants are William McArthur, director of the grain division of the Commodity Credit Corp., Washington; W. B. Lathrop, C.C.C., St. Louis; Laurel Dieterich, Des Moines, Iowa corn loan supervisor; Steve Wilder, Cedar Rapids, Ia., chairman of the country elevator com'te of the Grain & Feed Dealers National Ass'n; Allan Sawyer, and Ivan Harden of the C.C.C. office, Chicago.

I. J. O'SHAUGHNESSY, public relations counsel for the Rock Island railway, Chicago, will make a luncheon address.

THE AFTERNOON session, opening at 2 o'clock, will be given over to "What of Soybeans?" by George M. Strayer, executive sec'y of the American Soybean Ass'n, Hudson, Ia.; "Black Scourge," a sound film presented by Clark R. Larson, of the Bayer-Semesan Co., Wilmington, Del.; "Moths in Corn and What to Do About Them," by Harry R. Clark, of the Omaha Grain Exchange, and a discussion on the Wage-Hour Act.

A DINNER and theatre party has been arranged for the ladies Tuesday evening. The fellows get a night out.

DEC. 4, Wednesday: Line elevator interests will hold a group meeting at breakfast, under the chairmanship of Jim Olson, West Bend, Ia.

THE BUSINESS meeting called at 9:30 a. m. will open with an address by Ray B. Bowden, executive vice president of the Grain & Feed Dealers National Ass'n. He will be followed by Jack F. Leahy, president of the Federation of Cash Grain Commission Merchants, Kansas City, on "Keeping the Commission Man in the Picture"; and J. A. Goode, of Gastonburg, Ala., representing the Ass'n of Southern Commissioners of Agriculture, on "The Outlook for the Oil and Feed Situation."

SAM STEWART will preside over a luncheon meeting of warehousemen.

JACK SANS, Waukegan, Ill., will give an address on "Merchandising," at the opening of the afternoon session. Following him will be Dr. V. E. Nelson, of the department of Chemistry, Iowa State College, Ames, on "Nutrition and Vitamins"; and "Information, Please" the annual feedman's quiz, with M. B. Gardner, Cedar Rapids; F. Welles, Waterloo; Lester Hawk, Council Bluffs, and Herman Jensen, Estherville, as the experts, and Dr. H. L. Wilcke, of the department of poultry husbandry, Iowa State College, and Cy Sievert of the American Dry Milk Institute, as the umpires.

The annual banquet and entertainment begins at 6:30 p. m.

DEC. 5, Thursday: This is the seed session, and the closing business session. Mark Thornburg, sec'y of Iowa's department of agriculture, and Dr. R. H. Porter, extension plant pathologist from Iowa State College, will give addresses.

Election and adoption of resolutions will finish the session.

New things for those interested in side lines, and in machinery for efficient handling of grain, and for efficient grinding and mixing of feeds, will be shown by more than 30 exhibitors. A large crowd is expected, and a good time has been promised to all.

Letters from the Trade

[The grain dealers' forum for the discussion of grain trade problems, practices and needed reforms or improvements. Dealers having anything to say of interest to members of the grain trade are urged to send it to the Journals for publication.]

Storage Charges on Redeemed Wheat

Grain & Feed Journals: There seems to be considerable confusion as to what storage rates are applicable on grain when redeemed from the loan.

The uniform storage contract, C.C.C. Form H, applies on all grain on which C.C.C. loans have been made, and the storage rates provided for therein apply on all 1940 grain from date of deposit in warehouse until the date the loan is paid. In other words, the producer is protected by this agreement in that he shall not be charged a greater rate of storage than is provided for in said uniform storage agreement for the time intervening between date of deposit and the date his C.C.C. note is paid.

Should he redeem his wheat and then elect to leave it in the warehouse for an additional period, then the regular tariff charges may be made for that additional period.—J. F. Moyer, sec'y Kansas Grain, Feed & Seed Dealers Ass'n, Dodge City, Kan.

Wheat Shipping Tape

Grain & Feed Journals: Commodity Credit Corp. wheat loans thru Nov. 12 are announced at 250,498,724 bus., and involve 396,981 loans. This is a sharp increase from the 219,386 loans made in 1939 to cover 155,088,060 bus., and marks another sharp shift in the character of the country grain business at many country shipping points, destroying volume passing thru normal market channels, and thus increasing handling costs.

Country grain shippers generally have gone along with the Agricultural Adjustment Administration's wheat loan program, complaining somewhat about the $3\frac{1}{2}$ c to 4c per bu. service charge allowed them by the C. C. C. for handling shipments of loan wheat.

While these service charges could not be expected to return a reasonable profit, many felt that they would recompense the shipper for

actual work involved. This reasoning was reasonable under standard economic methods for handling and shipping wheat as normally pursued by country shippers. What is overlooked was that handling wheat for a government agency involved a great deal of extra expense in both bookkeeping and actual handling of the grain.

Greatest difficulties and losses have come to those country shippers who undertook to guarantee their own weights and grades on shipments for their customers to central storage elevators for loan purposes.

Even in cases where grain dealers refused to serve the C. C. C. except as shipping agencies for loan impounded wheat in their territories, and assumed no responsibility for the kind of grain delivered by loan-hungry farmers, trouble has been encountered. Perhaps this was to be expected. A farmer who delivers smutty wheat or rye mixed wheat, and having little or no understanding of the rigid standards by which wheat is graded, is not likely to understand why a loan was refused. He is naturally disposed to blame the nearest agency handling the actual wheat. To his mind it was good wheat, contaminated by being passed thru the elevator.

County A. A. A. com'ites, anxious to pass the buck, have not helped such situations. Regardless of the facts, they have often told loan-seeking farmers that the elevator operator is responsible. Such conduct on the part of agencies of the C. C. C. smacks somewhat of banditry. No guns are used, but unfair advantage is exercised to the extent that most country shippers handle sidelines extensively (a necessity created by C. C. C. destruction of normal volume of free grain). What grain dealer can afford to offend his customers for sidelines, even if he is not technically responsible for the kind of grain they deliver to him for shipment to storage under a government loan?

Country grain shippers are entitled to a more liberal service charge to cover such emergencies. If a government agency forces losses upon a country shipper, such agency should be willing to absorb the losses.—Louis Troman.

Daily Closing Prices

The daily closing prices for wheat, corn, oats, rye, barley and soybeans for December delivery at the following markets for the past two weeks have been as follows:

	Option		Wheat		Nov.		Nov.		Nov.		Nov.		Nov.		Nov.		Nov.		Nov.		Nov.		Nov.	
	High	Low	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Dec. 1	Dec. 2	Dec. 3	Dec. 4
Chicago	110½	68¾	87¾	89½	88¾	89½	88¾	88¾	87¾	87¾	88¾	88¾	87¾	87¾	88¾	88¾	87¾	87¾	88¾	88¾	87¾	87¾	88¾	88¾
Winnipeg	79¾	71½	73	73¾	72¾	72¾	72	71¾	71¾	71¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾	72¾
Minneapolis	88½	66½	86½	87¾	86¾	87¾	86¾	84¾	84¾	84¾	85¾	85¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾	84¾
Kansas City	84¾	62¾	82¾	84¾	83¾	84¾	83¾	83¾	83¾	83¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾	82¾
Duluth, durum	80	63	77¾	79¾	78¾	79¾	78¾	78¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾	77¾
Milwaukee	90¾	68¾	87¾	89½	88¾	89½	88¾	88¾	87¾	87¾	88¾	88¾	87¾	87¾	88¾	88¾	87¾	87¾	88¾	88¾	87¾	87¾	88¾	88¾
Corn																								
Chicago	67¾	53½	62¾	63½	63½	64¾	64¾	64¾	63½	63½	62¾	62¾	61¾	61¾	62¾	62¾	61¾	61¾	62¾	62¾	61¾	61¾	62¾	62¾
Kansas City	61	51	58½	59¾	59¾	60¾	60¾	60¾	59¾	59¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾	58¾
Milwaukee	65½	53½	63	63½	63½	64¾	64¾	64¾	63½	63½	62¾	62¾	61¾	61¾	62¾	62¾	61¾	61¾	62¾	62¾	61¾	61¾	62¾	62¾
Oats																								
Chicago	39½	27½	38	39	38	38¾	38¾	38¾	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½
Winnipeg	34¾	25¾	34½	34½	34	34¾	34	34	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾
Minneapolis	34¾	24½	33¾	34¾	34	34¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾	33¾
Milwaukee	39½	27½	38	39	38	38¾	38¾	38¾	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½	38½
Rye																								
Chicago	47¾	38¾	45¾	47¾	46½	47	46½	45¾	44½	44½	44½	44½	44½	44½	44½	44½	44½	44½	44½	44½	44½	44½	44½	44½
Minneapolis	46¾	36¾	44¾	45¾	45¾	45¾	44¾	44¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾
Winnipeg	49¾	39¾	47¾	48¾	47¾	48	47¾	47¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾	46¾
Duluth	45¾	42¾	44¾	45¾	45¾	45¾	45¾	45¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾	44¾
Barley																								
Minneapolis	42¾	33½	41¾	42	42	42¾	42¾	42¾	42	41	42	42	42	42	42	42	42	42	42	42	42	42	42	42
Winnipeg	48½	30½	47¾	48	46½	46½	46½	46½	45¾	44	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾	43¾
Soybeans																								
Chicago	107¾	67	95¾	98½	99½	102½	105½	101½	93½	95½	99½	98	98	99½	98	99½	98	98	99½	98	98	99½	98	99½
Canada Exchange	.....	.....	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87

Chicago Board to Assess Members on Trades

The directors of the Chicago Board of Trade have posted for a ballot vote by members Dec. 12 a new rule, 108-B, providing for a very small assessment on trades made by members to create a building fund. The rule reads as follows:

108-B. SPECIAL ASSESSMENT. A special assessment (in addition to all other assessments or dues levied or imposed under the provisions of Rule 108 or otherwise) is hereby assessed upon each member of the Association and upon each partnership and corporation registered under Rule 226 in an amount to be determined and to be payable as hereinafter provided. Such assessment is equal in amount to the following, on all transactions made under the Rules and Regulations of the Association—

On Futures Transactions

- ½ of a cent per 1,000 bushels of grain,
- 5 cents per 50,000 pounds of lard,
- 5 cents per 60,000 pounds of cottonseed oil,
- 5 cents per 30,000 pounds of dry salted clear bellies,
- 5 cents per 100 shares, or proportionate amounts per share, on securities,
- 5 cents per \$1,000 on bonds,
- 2½ cents per 50 bales of cotton,
- 5 cents per contract on other commodities.

On Cash Transactions

- 10 cents per carload, or part thereof, on commodities,
- 3 cents per truck load of grain,
- 5 cents per 1,000 bushels on cargo lots of grain,
- 5 cents per 1,000 bushels on barge lots of grain,

bought or sold by such member, partnership or corporation, either for his or its own account, or as an agent for others (whether as commission merchant or broker) beginning Jan. 1, 1941.

Assessments on futures transactions shall be paid monthly.

Future trades which are opened and closed on the same day at the same price by a non-clearing member operating under Section (e) of Rule 221 are not subject to the assessment required under this rule.

Assessments on cash transactions shall be paid in the manner following:

On or before the fifteenth day of each month, each member and each partnership and corporation registered under Rule 226 handling cash transactions shall pay to the Association the required assessment on such transactions handled under the Rules and Regulations of the Association during the preceding month.

The assessment received by the Association pursuant to this Rule shall constitute a special fund which shall be called the "Building Fund" and shall be used for purposes relating to Chicago Board of Trade Safe Deposit Company and its building (known as the Board of Trade Building). Any portion of such Building Fund not so used within a period of three (3) years of receipt by the Association shall be refunded to the members of the Association pro rata according to their respective assessments.

The operation of this rule shall be under the jurisdiction of the Finance Committee which shall have authority to obtain from members detailed reports of transactions on which this assessment is based.

Open Interest in Future Deliveries

As reported by the C.E.A. for wheat, corn, oats and rye, and by the Board of Trade Clearing House for soybeans the open interest in all futures on the Chicago Board of Trade recently has been as follows, in 1,000 bus.:

	Wheat	Corn	Oats	Rye	Soybeans
Aug. 3	80,359	22,134	9,571	16,427	1,778
Aug. 10	82,082	22,982	10,061	16,734	2,390
Aug. 17	80,492	22,585	10,131	16,515	2,781
Aug. 24	77,334	22,927	10,164	16,075	2,906
Aug. 31	70,137	22,470	10,403	15,469	2,963
Sept. 7	60,516	22,779	10,560	14,290	3,010
Sept. 14	59,707	22,075	10,961	13,962	3,038
Sept. 21	58,871	19,176	10,132	14,601	3,168
Sept. 28	58,175	19,454	10,115	14,316	3,331
Oct. 5	57,283	19,641	10,119	14,273	3,531
Oct. 11	56,279	19,516	10,192	14,558	4,321
Oct. 19	55,539	20,287	10,392	14,562	5,273
Oct. 26	55,850	20,811	10,382	15,014	5,976
Nov. 2	54,629	22,070	10,466	15,107	6,477
Nov. 9	55,777	22,771	10,380	14,860	7,180
Nov. 16	54,534	24,088	10,560	14,794	7,150
Nov. 23	56,038	25,156	10,658	14,951	7,356

Crop Reports

Reports on the acreage, condition and yield of grain and field seeds are always welcome.

Lancaster, O., Nov. 22.—Growing wheat is looking fine.—Graham Milling Co.

Evansville, Ind.—Edward H. Burgdorf, of Vanderburgh County, harvested one of the highest corn yields produced in Indiana.—W.B.C.

Lansing, Mich., Nov. 1.—225,000 acres of soybeans for all purposes were planted. Present indications are that about 85,000 acres were harvested for grain.—Verne H. Church, Sr. Agr. Statistician.

La Grande, Ore.—H. A. Zurbrick believes he has learned how to increase wheat production. A 20-acre tract on his farm, which had been planted to alfalfa for eight years, yielded 70 bus. of wheat per acre in this year's harvest. Tests proved it better than No. 1 grade. Average yield in the Grande Ronde valley is 40 bus. per acre.—F. K. H.

Winchester, Ind., Nov. 23.—Began raining a little Thanksgiving Day and has kept it up, showering every now and then since, until the soil is entirely drenched. Wheat is looking fine, grass has begun to green up and looks as though we would have some winter pasture. Wheat is out of any danger of freezing and looks like it was out of all kinds of danger until spring thawing. Corn husking is entirely done, except what corn is in the shock. Belated returns of husking yields are not very encouraging.—Goodrich Bros. Co., P. E. Goodrich, pres.

Minneapolis, Minn., Nov. 20.—Moisture this fall is so much better than last year in nearly all parts of the country and Canada, that the outlook for the 1941 crop is very promising at this time. The moisture situation over the Pacific Northwest is in the best of condition, as bountiful rains covered most of the grain raising areas, and prospects are bright. Rain and snow were received over the Northern spring wheat states, replenishing the soil moisture and putting fall sown crops in good condition to enter the winter. The winter wheat crop generally is making a vigorous growth.—Cargill Crop Bulletin.

Toronto, Ont., Nov. 1.—For the province as a whole it is estimated that the seeded area is 68% of the acreage harvested this season. The reduction is accounted for by a shortage of labor and a prolonged period of rainy weather which delayed harvesting of grain crops and in some cases made the land too wet for plowing. The condition of fall wheat is somewhat below normal, being placed at 91% of average. Timothy was the only crop where a good yield of seed was obtained. Seeds of all other classes of hay and clover have been extremely variable and light.—S. H. H. Symons, statistician, Ontario Dept. of Agriculture.

Decatur, Ill.—The disappointing yields of soybeans this season can possibly be attributed to the poorer stands than usual and the prolonged dry spell in the central soybean area when the beans were filling. Another important factor was that late in the season a great many weeds developed to compete with the beans; these began to show up about the time the beans were filling. Everyone interested in the promotion of the soybean is anxiously awaiting the development of new strains that will materially increase the average yield per acre, as it will be necessary to produce higher yields to prove a successful and profitable crop.—Baldwin Elevator Co.

Spokane, Wash., Nov. 16.—Substantial increase in fall sown wheat acreage over last season because of greatly improved soil conditions, according to a recent survey conducted by experts of the Northern Pacific Railway to determine winter wheat planting in the Inland Empire. Last year along the Washington Central line there was comparatively little winter wheat sown. This early fall shows conditions reversed, with the Davenport district showing an estimated 55 per cent gain in acreage over 1939; 70% is sown, with the soil reported in "fine condition." The bulk of the planting last season was in spring wheat early in 1940. It is estimated 70 per cent of the acreage will be sown to winter wheat.—F. K. H.

Ottawa, Ont., Nov. 9.—The Dominion bureau of statistics in its second estimate of Canada's 1940 wheat crop placed it at 547,179,000 bus., 13,925,000 below the first estimate of production issued last Sept. 4. By provinces, 1939 production shown in parentheses, production in millions of bushels (000's omitted), was as follows: Saskatchewan, 1940, 15,571 acres, 260 (250); Alberta, 8,667 acres, 190 (150); 3 provinces, 27,750 acres, 520 (463); all Canada spring wheat, 27,951 acres, 524 (467); fall wheat, 775 acres, 23 (22); all wheat, 28,726 acres, 547 (490).

Washington, D. C., Nov. 12.—The U. S. D. A. reported that favorable October weather raised the nation's corn crop 81,000,000 bus. to 2,433,523,000 bus. The indicated crop is about 7 per cent less than the 1939 total of 2,619,137,000 bus., but 6 per cent larger than the 10-year (1929-'38) average of 2,299,342,000 bus. The report said the corn yield was expected to average 28.2 bus. per acre, the third largest in 17 years. Other crops for which the department raised production estimates over those of a month ago included beans, rice, each 1 per cent. Estimates for a few crops were reduced. Grain sorghums and soybeans were down from 3 to 4 per cent. The soybean crop was placed at 79,198,000 bus. Wheat production estimates were unchanged from the October figure of 792,332,000 bus.

Argentina's 1941 Crop Flaxseed

Broomhall's first estimate of the exportable surplus of flaxseed for 1941 states that based on a continuation of favorable climatic conditions until harvest this exportable surplus will be 57,987,000 bus. This estimate doubtless allows for three to four million bushels from Uruguay and the balance of 53,500,000 from the Argentine Republic, which is 8,700,000 bus. below the recent five-year average. This figure suggests a crop of 60,500,000 bus. in the Argentine for the present crop year, which is somewhat below the government's estimate.—Archer-Daniels-Midland Co.

Protein Content of Western Canada Wheat

The protein content of western Canada's 1940 crop of hard red spring wheat shows an average of 14.1%, which corresponds exactly with the average of the 1939 crop, according to the 14th annual protein survey conducted by J. Ansel Anderson and W. J. Eva of the Grain Research Laboratory of the Board of Grain Commissioners for Canada, at Winnipeg.

Only a slight variation from last year showed in the figures from each of the three provinces.

The 1940 results for each province, compared with the 1939 results in parenthesis, give the following averages: Manitoba, 14.5 and (14.4%); Saskatchewan, 14.3 and (14.3%); Alberta, 13.3 and (13.7%). These figures are based upon analysis of 7,404 samples, collected from 314 shipping points in Manitoba, 983 points in Saskatchewan, and 523 points in Alberta.

Most interesting feature of the survey is the similarity between the protein contents of corresponding grades of the 1940 and 1939 crops. This is most apparent in grades 1 Hard, 1 Northern and 2 Northern, which constitute over 90% of the 1940 crop. The only striking differences are to be found in grades 4 Northern, 4 Special, and 1 and 3 C. W. Garnet. However, in both years, there was little grain in the latter grades.

Analysis of the completed survey showed that 3.8% of the samples were under 11% protein; 16.9% were 11 to 12.9% protein; 50.5% were in the 13 to 14.9% protein range; 27.7% showed 15 to 16.9% protein, and 1.1% were over 16.9% protein.

In 1940 the large high-protein area around the Alberta-Saskatchewan boundary disappeared, and a low-protein area showed up in southwestern Saskatchewan. Low protein in the latter area is abnormal, and the laboratory attributed it to abundant precipitation during the 1940 growing season. Considered a minor contributing factor was development of some new irrigation projects in this area.

In previous years the Grain Research Laboratory has collected its samples for protein analysis from inspection offices in the Western Division, taking a sample from every 20th car of wheat in each of the 9 contract grades. Canada's 301,000,000 bu. carry-over of wheat on July 31, this year, limited storage facilities and led to government control of the movement of grain from farms to country elevators, reducing the flow from country elevators to terminal elevators. This led to setting up the new system whereby representative samples were collected from farmers and country elevators to make up the survey.

Canadian Crop Estimate

A total spring and durum wheat crop of 536,720,900 bus. is estimated by J. G. Fraser, manager of the North-West Line Elevators Ass'n, Winnipeg, Can., Nov. 12, for the three Prairie Provinces of Manitoba, Saskatchewan, and Alberta. The estimate is based on the acreage figures issued by the Dominion Bureau of Statistics for 1940, and the yields per acre are compiled from returns received from 95% of the country points in these three provinces.

The total wheat estimate for Manitoba is 65,682,700 bus.; for Saskatchewan, 270,031,400 bus.; for Alberta, 201,006,800 bus.

Aggregates for the three provinces, by crops, show 27,087,000 acres of spring wheat, yielding an average of 19.4 bus. per acre, and a total crop of 526,852,650 bus.; 663,000 acres of durum wheat yielding 14.9 bus. per acre to give a total of 9,868,250 bus.; 7,818,000 acres of oats, yielding 32.2 bus. per acre for a total of 252,102,500 bus.; 3,622,000 acres of barley, yielding 23.7 bus. for a total of 85,942,200 bus.; 943,100 acres of rye, yielding 13.6 bus. for a total of 12,787,200 bus., and 372,700 acres of flax, yielding 8.3 bus. per acre to give a total of 3,089,240 bus.

Louis L. Dreyfus died at Cannes, France, Nov. 10, as the result of a horse riding accident. He was formerly with Louis Dreyfus et Cie, a grain firm now taken over by Laval & Co., at New York.

Wheat Loans Total 257,059,636 Bus.

Wheat from the 1940 crop continued to enter the loan at the rate of approximately one million bushels per day in the week ending Nov. 19, Commodity Credit Corporation announced.

Total loans for the season to Nov. 19, 1940, reported in farm and warehouse storage amounted to 257,059,636 bus. valued at \$185,448,094.02. This compares to a total farm and warehouse storage of wheat on the same date last year of 158,323,622 bus. valued at \$110,913,157.33.

The Corporation also reported on barley and rye loans made to November 19, showing 5,609,055 bus. of barley in storage valued at \$1,788,348.51; rye 2,816,846 bus. valued at \$1,054,685.91. Wheat loans by states follow:

State	No. Loans	Farm Storage Bus.	Warehouse Storage Bus.	Amount
Ark.	30	.....	12,677	9,407.47
Calif.	38	34,095	95,726	88,208.98
Colo.	4,200	866,992	2,298,194	2,084,250.89
Del.	3	.....	1,625	1,327.13
Idaho	3,852	1,604,368	5,080,711	3,570,914.79
Ill.	26,880	633,111	12,020,150	10,108,149.68
Ind.	11,188	293,210	3,148,392	2,663,294.34
Iowa	5,251	386,188	2,364,191	2,049,005.56
Kan.	65,470	7,551,137	38,947,333	33,287,769.53
Ky.	1,274	.....	494,618	377,595.66
Md.	113	.....	55,617	39,466.36
Mich.	1,442	221,564	149,113	257,669.83
Minn.	23,887	2,505,138	6,795,545	7,347,245.32
Mo.	20,813	308,338	8,355,425	6,509,774.91
Mont.	22,972	6,630,994	18,413,251	17,481,068.99
Neb.	31,218	4,888,600	9,657,730	10,630,207.55
N. Mex.	456	69,009	376,464	321,747.51
N. Dak.	81,127	6,196,564	43,869,737	37,998,547.52
Ohio	12,138	351,183	3,651,228	3,204,174.05
Okla.	31,137	2,425,252	18,034,131	14,672,847.44
Ore.	2,000	676,647	4,713,466	3,155,016.61
Penn.	320	.....	81,151	60,910.10
S. Dak.	36,882	2,395,034	9,855,621	9,110,062.23
Tenn.	857	.....	273,326	214,216.78
Texas	19,522	1,501,501	17,086,453	13,636,033.21
Utah	473	636,304	201,456	413,051.50
Va.	571	.....	158,746	120,634.72
Wash.	3,779	1,184,387	8,812,409	5,649,776.26
W. Va.	24	.....	9,687	8,354.04
Wis.	1	.....	172	115.24
Wyo.	755	315,936	369,739	477,249.82

Total 408,673 41,675,724 215,383,912 185,448,094.02

Grain Movement

Reports on the movement of grain from farm to country elevator and movement from interior points are always welcome.

Lancaster, O., Nov. 22.—Very little grain moving. Considerable grain held under government loans.—Graham Milling Co.

Milwaukee, Wis., Nov. 15.—Steamer Mantadoc arrived on Nov. 15 with cargo of 216,204 rye from Canadian port, unloading at C., M., St. P. & P. Elevator E.

Portland, Ore.—The federal customs office at Los Angeles is in a position to collect \$320,000 in duties all in one chunk upon discharge of an 8,000 ton Manchurian soybean cargo from the Norwegian Nordpol. Duty of 2c a pound is collective.—F. K. H.

Chicago, Ill., Nov. 13.—The carlot receipts of soybeans for the week ended Nov. 8, were 300 cars compared to 372 cars the previous week and 1,016 cars the corresponding week last year. Arrivals of soybeans at Chicago for the first 6 weeks of the season were 5,189 cars less than for the same period last year.

Spokane, Wash., Nov. 22.—"Pacific Northwest flour mills have enough orders booked for shipment to the Far East to keep them grinding for 60 days," stated T. H. Hibbits, grain buyer for Spokane Flouring Mills Co. "Cutting off the export subsidy does not affect to any extent the Big Bend farmers who grow mostly Baart and other premium protein wheats, for it is used entirely by domestic millers."—F. K. H.

Winchester, Ind., Nov. 23.—Feeders are buying corn as high as 65c a bu. in the country. We are shipping very little, farmers are not selling, only as they haven't crib room to pile up another crop. This time last year we were selling slat cribs as fast as we could get them, now we sell very few. Clover seed is still dribbling in, soybeans are getting pretty well cleaned up. We are not handling more than half as many as we did last year.—Goodrich Bros. Co., P. E. Goodrich, pres.

New York, N. Y.—Receipts and shipments of grain during October, 1940, as compared with October, 1938 (shown in parentheses), expressed in bushels were as follows: Receipts, wheat, 1,253,166 (3,072,150); corn, 121,816 (146,725); oats, 146,002 (85,100); rye, 1,700 (20,400); barley, 1,700 (696,492); flaxseed, 238,357 (65,321); shipments, wheat, 699,000 (3,104,000); rye, — (124,000); barley, — (702,000); soybeans, — (22,000); kafir, — (10,000); clover seed, 1,606 (4,084).—Dept. of Information & Statistics.

Winnipeg, Man., Nov. 8.—The Canadian wheat board is shipping a limited quantity of tough and damp wheat in Alberta to Canadian government elevators in Calgary, Edmonton, Port Arthur and Fort William "in order to relieve a serious situation." Railway companies will distribute the shipments at specified points on the basis of elevator capacity. The possibility of a long storage period prompted the board to move the grain to government elevators where drying facilities were available and there was a better chance of disposal, it was explained.

Ottawa, Ont., Nov. 22.—Canadian wheat in store for the week ending Nov. 15 increased 3,979,122 bus. as compared with the preceding week and increased 96,838,088 bus. when compared with the corresponding week in 1939. The amount in store was reported as 453,507,864 bus. compared with 449,528,742 bus. for the preceding week and 356,669,776 bus. for the week of Nov. 17, 1939. Canadian wheat in the United States amounted to 42,914,630 bus., an increase of 2,753,046 bus. over the preceding week when 40,161,584 bus. were reported. Marketings in the three Prairie Provinces for the fifteen weeks from Aug. 1 to Nov. 15, as compared with the same period in 1939 were as follows, figures within brackets being those for 1939: Manitoba 31,256,975 (48,063,672); Saskatchewan 124,862,304 (190,389,712); Alberta 67,691,381 (93,597,391) bus. For the fifteen weeks ending Nov. 15, and the same period in 1939, 223,810,660 and 332,050,775 bus. were received from the farms.—R. H. Coats, Dominion Statistician.

Decatur, Ill., Nov. 23.—So far, country holders of wheat do not seem to be disturbed by the decline in price, and the price that will bring out loan wheat is still everybody's guess. The corn situation has been complicated this week by the announcement of the 1940 loan program. Since growers have ten months in which to decide whether or not to make loans, it will afford ample time to analyze every feature of the program and should, therefore, preclude any hasty marketing of corn. There has been a good shipping demand for corn, and the colder weather last week also stimulated increased feeding. Offerings from the country have been moderate, the expected heavy movement of soft corn failed to materialize. A substantial proportion of receipts show improvement in the grade.—Baldwin Elevator Co.

Duluth, Minn., Nov. 23.—More freighters are now expected to become available for carrying grain, providing shippers demand to move stuff eastward improves sufficiently to increase the demand for vessel tonnage at good rates. So far there has been very few boats to load and hold grain afloat in bottoms at eastern ports as largely done in the past. Vesselmen expect this to be an off year in that respect, either because there is ample grain stock now in the east or under contract to move for all winter purpose, or else vessel owners are reluctant to take a chance of being tied up with a cargo in the spring so as to take up active shipping the earliest possible next spring. From Winnipeg, Canada, comes a report that something like 5,000,000 bus. of No. 1 northern spring wheat will be railled to Duluth-Superior to be held in store because of the lack of storage space in that country. At the present time local houses hold 8,000,000 bus. of Canadian wheat. With movement of domestic grain slow elevator operators seem of the opinion that they will be able to take care of such a movement here, in view of the expected final windup rush to get supplies out under contract by the close of navigation. The 178,000 bus. of domestic wheat held afloat in boat has been transferred back into the elevator that loaded it out.—F. G. C.

Chicago, Ill.—Elected general chairman of the 1940-41 executive com'te of the National Safety Council recently was Dean M. Clark, of the Society of Grain Elevator Superintendents of North America, Chicago, Ill. Made vice-chairman for the program was H. J. Aldrich, of Spencer Kellogg & Sons, Inc., Buffalo, N. Y. Roy L. Rollins, of A. E. Staley Manufacturing Co., Decatur, Ill., heads the News Letter Com'te.

Interstate Grain Shipments Must Be Inspected

The Mississippi Valley Grain & Feed Co., is the victim of an information filed by assistant U. S. attorney W. H. Sheridan in the federal court clerk's office at Keokuk, Ia., charging shipment of 11,400 bus. of corn in interstate commerce without federal inspection of the grain under the Grain Standards Act.

While the Grain Standards Act declares that no person shall represent that any grain shipped or delivered for shipment in interstate or foreign commerce is of a grade fixed in the official standards, it allows some exceptions. Section 4 of the Act provides:

SEC. 4. That whenever standards shall have been fixed and established under this Act for any grain no person thereafter shall ship or deliver for shipment in interstate or foreign commerce any such grain which is sold, offered for sale, or consigned for sale by grade unless the grain shall have been inspected and graded by an inspector licensed under this Act and the grade by which it is sold, offered for sale, or consigned for sale be one of the grades fixed therefor in the official grain standards of the United States:

Provided, That any person may sell, offer for sale, or consign for sale, ship or deliver for shipment in interstate or foreign commerce any such grain by sample or by type, or under any name, description, or designation which is not false or misleading, and which name, description, or designation does not include in whole or in part the terms of any official grain standard of the United States:

Provided further, That any such grain sold, offered for sale, or consigned for sale by grade may be shipped or delivered for shipment in interstate or foreign commerce without inspection at point of shipment by an inspector licensed under this Act, to or through any place at which an inspector licensed under this Act is located, subject to be inspected by a licensed inspector at the place to which shipped or at some convenient point through which shipped for inspection, which inspection shall be under such rules and regulations as the Secretary of Agriculture shall prescribe, and subject further to the right of appeal from such inspection, as provided in section six of this Act:

And provided further, That any such grain sold, offered for sale, or consigned for sale by any of the grades fixed therefor in the official grain standards may, upon compliance with the rules and regulations prescribed by the Secretary of Agriculture, be shipped in interstate or foreign commerce without inspection from a place at which there is no inspector licensed under this Act to a place at which there is no such inspector, subject to the right of either party to the transaction to refer any dispute as to the grade of the grain to the Secretary



The Farmers Elevator of Odebolt, Iowa, has handled over 500,000 bus. CCC Corn this season. [See facing page]

of Agriculture, who may determine the true grade thereof.

No person shall in any certificate or in any contract or agreement of sale or agreement to sell by grade, either oral or written, involving, or in any invoice or bill of lading or other shipping document relating to, the shipment or delivery for shipment, in interstate or foreign commerce, of any grain for which standards shall have been fixed and established under this Act, describe, or in any way refer to, any of such grain as being of any grade other than a grade fixed therefor in the official grain standards of the United States.

Commodity Credit Corp. Corners Corn

Over 500,000 bushels of Commodity Credit Corp. corn has been packed away in steel bins or shipped to terminals by the Farmers Elevator Co., at Odebolt, in Sac County, Ia.

Odebolt is in the heart of Iowa's best corn producing area, but there are a number of elevators in Sac County and when only one of them handles over half a million bushels of corn for the Commodity Credit Corp., the latter organization is getting a lot of corn.

"Last year we filled 106 steel bins with 244,000 bus. of CCC corn," reports Manager A. B. Traeder, of the Farmers Elevator Co. "This year we filled 62 additional bins with 165,000 bus. and have more bins under construction. Also this year there was shipped to terminals 350,000 bus. of CCC corn besides the corn put in the steel bins.

"Steel bins last year had capacity for 2,300 bus. each. The first 30 steel bins erected at Odebolt this year have the same capacity. The other 32 have capacity for 2,730 bus. each. The steel bins furnished this year are of better construction and have better provision for filling and for emptying.

"The bins have been filled during the rush of delivery with two privately owned portable loaders. The operators of these loaders were paid on a bushel basis.

"Of the half million bushels of CCC corn we have handled this season, about 200,000 bus. came from Adams Bros. & Co.'s ranch adjacent to Odebolt. This corn was delivered by mule teams. The remainder came from other farms in this community and was delivered by truck.

"The corn put in steel bins a year ago has been inspected periodically by the Sac County AAA Com'te and appears to be still in good condition."

The Grain Exchange Institute

By M. R. GLASAR, Chicago, before Grain and Feed Dealers Nat'l Ass'n

The Grain Exchange Institute is an Illinois corporation, organized not for profit and under the sponsorship of the Association of Grain Commission Merchants.

In difficult times such as at present, there are some who might perchance question its necessity.

Primarily we all realize that in an industry as widespread as ours, with its many ramifications, there are unfortunately relatively few individuals who have the time to go beyond their own highly important and specialized daily activities. In other words, the broad knowledge of the grain trade, which is so essential for the successful accomplishment of individual tasks, is unfortunately not readily obtainable. On the other hand, acquisition of these facts can not help but redound, not only to the benefit of the individual but in even a more marked degree to his firm.

Then too, we see an annual influx of new man power into the grain business as well as into its allied industries. They enter a business which we all recognize as complex and under normal circumstances it is not a matter of weeks or months but rather of years before a real understanding is secured. Frankly, we all know that the longer we pursue this, our chosen line of endeavor, the more there apparently is to learn. Accordingly, is it definitely not to the benefit of any individual as well as to the benefit of the firm with which he is associated that he be placed in a position so that at least the fundamental portion of this knowledge be made available in as simple and yet authoritative manner as possible?

We are the sales force of the AMERICAN FARMER. Our interests are mutual and the benefits accruing to the one are equally helpful to the other. We can help and be helped by improving the efficiency of the sales force thru the medium of increased knowledge. In view of the success that has attended this procedure in other lines of endeavor, it would seem that we could ill afford to turn our backs on so tried and satisfactory a plan. In other words, is it not more highly advisable than ever at this time to have an increased understanding of our

products and methods of marketing, on the part of everyone in the trade?

The correspondence course "Grain and Its Marketing" of the Grain Exchange Institute was compiled by over 70 of the outstanding men in the trade all over the country. The course is not localized in any sense of the word, but is definitely national in its scope and entire method of approach. It has been compiled on the basis of being useful to everyone in their locality. Self-evidently any other procedure would indeed defeat its primary purpose.

We are not presumptuous enough to feel that we have the entire solution to grain trade difficulties thru the medium of these courses. However, it is our sincere belief that they offer a definite and most important stepping stone toward the goal we are so earnestly seeking. It is not a question of "can I afford the course?" Far from that—it is rather a question of "how can I afford to do without it?"

About 800 persons have taken the course so far and from these many contacts a realization of accomplishments, due to the course have been brought to our attention.

May I say that I could not and would not suggest that a single person enroll were it not for the fact that we are certain of the resultant profitable benefits which can accrue to the person taking the course, to the firm with which he is associated and to the entire grain trade. Please make an effort to get your enrollment in today, or barring this, send it to the office of the Grain Exchange Institute, 859 Board of Trade Building, Chicago, Ill.

Changes Proposed in Federal Standards for Oats and Rye

Six public conferences to discuss proposed amendments to the United States grain standards for rye and for oats, have been announced by C. W. Kitchen, Chief of the Agricultural Marketing Service. Dates and places for the conferences follow:

- Dec. 9—1:30 p. m.—Grand Forks, N. Dak.—City Hall Auditorium.
- Dec. 10—2:30 p. m.—Minneapolis, Minn.—Chamber of Commerce Bldg. Directors Room.
- Dec. 12—1:30 p. m.—Aberdeen, S. Dak.—Post Office Bldg., Committee Room.
- Dec. 13—2:30 p. m.—Omaha, Neb.—Grain Exchange Bldg.
- Dec. 18—2:30 p. m.—Peoria, Ill.—330 South Washington Street, Exchange Room.
- Dec. 19—2:30 p. m.—Chicago, Ill.—Board of Trade Bldg., Room 558.

The proposed amendments, also announced today, include the addition of a special grade to designate Columbia oats; and special grades to designate rye containing not more than 5 per cent of thin kernels, and rye containing more than 20 per cent of thin kernels.

"It is believed that the proposed amendments, if adopted," Mr. Kitchen said, "would modernize the standards to conform with changes that have occurred in recent years in the production, merchandising, milling and processing practices with respect to these grains. In formulating the proposals," he added, "consideration has been given to the problems of the producer and the country shipper as well as to the problems of the elevator operator and consumer."

The proposed amendments, if adopted, will become effective at the beginning of the 1941 crop movement of rye and oats. Ninety days' public notice must be given by the Secretary of Agriculture, however, before the standards may become effective.

The public is invited to attend the conferences and to participate in the discussions. Detailed information concerning the proposed changes may be obtained upon request from the Agricultural Marketing Service, Washington, D. C., or from any of its grain and seed field offices.



The CCC has over 168 Steel Bins at Odebolt, Iowa.
[See facing page]

Elevator Operating Suggestions

TERMINAL ELEVATOR operators preach and practice safety. Many country elevator operators have followed suit, but many more could make life safer and happier around their plants by erecting guards around moving machinery, by keeping the ropes and the brake on the manlift in prime working condition, by putting steel bars under the receiving sink trap door to prevent anyone accidentally stepping into the pit, and by similarly reducing hazards at many other points around the elevator. Safety precautions prevent accidents.

* * *

WEAR ON BIN walls in a frame or cribbed elevator can be prevented by placing a breaker block about a foot from the end of the bin spout. The momentum of a stream of grain is broken when it hits this block and it sprays downward, reducing wear on bin walls to a minimum.

Another way to accomplish the same purpose is to attach a section of an old tire casing or conveyor belt to the end of the bin spout in such manner that it deflects the stream of grain downward.

* * *

A TWO-WAY LOUD speaker system will save steps around the modern grain elevator where many side lines are handled and the business must be more or less departmentalized. There is no profit in labor that is kept so busy running back and forth that it is unable to perform the tasks for which it is paid. Two-way communication systems save lost motion in giving or receiving instructions, and avoid keeping a customer waiting.

* * *

A SENSITIVE ear and a quick step have often prevented choke-ups in the elevator boot. But better than these is a modern, high-speed elevating leg that carries grain away as fast as it can be dumped. Such a leg is almost positive insurance against choke-ups, and will bring customers to the plant because it doesn't keep them waiting for the quick service they want.

* * *

WHEN MACHINERY is easy to reach it is more likely to be kept well oiled and clean than if reaching it involves carrying ladders or planking back and forth. Cat-walks around the leg heads reduce the labor in caring for them, and provide a two-way saving in reducing fire hazards and power bills. An un-oiled bearing can build up a lot of friction.

* * *

CHILL MORNINGS and chill evenings that come naturally with fall weather have put the office stove back into commission in most country elevators, and brings up again the problem of back draft smoke in elevators where the office is so located that the elevator blocks the wind and causes down pressure in the chimney.

The problem can be easily settled by equalizing air pressures in the stove. A stove pipe of sufficient size to match the chimney opening, fastened into the base of the stove and extended to the outside, will do the trick. It is like the cold air return to a hot air furnace, permitting the air to circulate normally around the fire.

More and more elevator offices are installing furnace heat. A furnace in a well insulated office will prevent those hot and cold spots that have so much to do with reducing the working efficiency of the office staff.

* * *

A MERCHANDISE SALES room, and proper bins and shelving for keeping stock clean and orderly, have much to do with the volume of retail business in side lines that an elevator operator can develop. A farmer may accept feed in a dirty sack, but just like other folks, he'd rather have it in a clean sack. He may accept a chipped block of salt, but he'd prefer a bright, clean-looking block. It is

good business to anticipate and fulfill the unspoken wishes of the customer.

* * *

FLOOD LIGHTS played on the elevator in the long evenings of autumn make the place look prosperous and attract trade as well as discourage vandalism and petty pilferage.

* * *

DUST in a grain elevator is an occupational hazard for employees. While the organic dust from grain, and from feed grinding operations, has been proven to be highly over-rated as a disease hazard, compared with the inorganic dust in quarries, foundries and paint factories, it is none-the-less a basis for complaint and claim for employees who may be subject to pulmonary diseases. Insurance offers a measure of protection from claims, but clean house-keeping methods, efficient sweeps, and dust collectors will remove the cause of complaint. Persons afflicted with asthma and throat or lung trouble should not be employed in an elevator.

* * *

GASOLINE torches used in starting semi-diesel or diesel engines are potent hazards, especially if they are handled a bit carelessly, and carelessness grows naturally out of the excitable strain of starting a balky engine on a cold morning. It is easy to make the mistake of setting the torch down to throw the heat against an oil drum, or oil drippings. Safety lies in keeping engine rooms clean, and in keeping oil drums at a safe distance from the immediate realm of operations. Another good idea is to use electric heating plugs, or kerosene torches which do not of themselves carry a potential explosion hazard.

* * *

COD liver oil drippings, sopped up with a rag that is left laying where it falls, become a likely source of spontaneous combustion. Keep the cod liver oil drums on racks, and use drip pans instead of rags.

Overtime Pay Reduced to 150% of Basic Wage

The U. S. District Court for the Northern District of Texas ruled against the regulation of the National Labor Relations Board on the rate of payment for overtime.

Relying upon the interpretation by the Board, one Reeves, employed by the Howard County Refining Co., who had worked more hours per week than the basic number under the wage and hour law, brought suit to recover on the basis of his wages of \$150 per month as establishing his hourly rate. He divided his wage

for a week with the number of hours, and this was more than the basic rate under the wage and hour law.

The court held that since the total wages paid were substantially in excess of the minimum rate fixed in the wage-hour law, even tho counting the extra hours at time and a half, Reeves is not entitled to recover.

The court is in agreement with the contention of the National Ass'n of Manufacturers.

As most skilled workers are paid more than the minimum, the effect of this decision is to deprive them of the bonus for overtime, except when voluntarily granted by the employer.

Apparently by entering the field of wage rate fixing the courts believe the law supersedes labor union rules and agreements and any private arrangement between employer and employee.

The Australian government has been asked to pay a bounty to wheat growers who are suffering from adverse seasonal conditions.

Protects Scale Deck

When Fred Antell, operator of a 60,000 bu. elevator on the Southern and C. & E. I. railroads at Princeton, Ind., modernized to handle truck traffic he installed a 25-ton truck scale with a 9x34 ft. deck.

Building of the reinforced concrete pit for the large deck of the new scale upset Mr. Antell's whole office arrangement. The old office wasn't large enough to accommodate the scale.

Mr. Antell compromised by building an entirely new office, following the pattern of his old one on a larger scale.

Included with the pouring of the scale deck pit was pouring of a smooth concrete floor and foundation for the new office.

The new office is 40x26 ft. and one story high. Fourteen feet of the width is used to house the scale deck, and serve as a driveway, closable by folding doors at each end. The rest of the space is devoted to office quarters, with wide windows in front of the scale beam so weighman can see that truck wheels are all on the scale platform. Construction of the new office is frame, with wood siding, and channel-drain, metal roofing.

Fred Antell operates three trucks of his own. He deals in coal, feed, and agricultural limestone as well as grain, and his elevator is equipped with both a small grain cleaner and a corn cleaner in addition to a sheller.



Office and Housing for Modern Scale at Princeton, Ind.

Design for a Corn Crib

[The ear corn storage crib of the Cleveland Grain Co. at Metcalf, Ill., described in the following story, has since been destroyed by a fire that started in an adjacent building. None the less, the design was unusual and merits study by other grain dealers.—Ed.]

Manager C. E. Stanbery, of the Metcalf group of seven Cleveland Grain Co. elevators, with local office at Metcalf, Ill., thought of all the corn cribs he had ever seen when his company announced its intent to erect a new storage crib for ear corn at Elevator B in Metcalf. Then he incorporated the advantages of all of them in a penciled sketch of plans for the new structure, which he submitted to officials of the Cleveland Grain Co. for approval. These plans were developed in the subsequent 50,000 bushel structure which grew from an extension of the driveway of Elevator B, at a cost of approximately 15c per bushel of space.

Major difference between the new structure and similar cribs for storage of large quantities of ear corn is the manner of bracing employed. The floors of the bins are free from obstructions, so that a man can walk about on them without bending and twisting to get over or under cross pieces, and he can swing a shovel or a broom in cleaning out a bin and suffer a minimum of those hard-to-get-at corners where dirt loves to accumulate.

Another difference is that the bins are lined with closely-meshed hardware cloth for the double purpose of keeping rats out and grain in. This lining makes the bins useful for storing oats and beans as well as ear corn, and reduces the losses of shelled corn that breaks loose from the cob when ear corn is handled.

Construction of the new crib is frame, with closed parts, like the driveway, the roof and the cupola, iron-clad. It is 120 ft. long, 24 ft. wide, and 40 ft. high to the plate. This structure is divided lengthwise thru the middle by a 3 ft. wide vertical ventilating space and a drag chain tunnel that accepts grain from the bins on either side for return to the leg at one end of the structure.

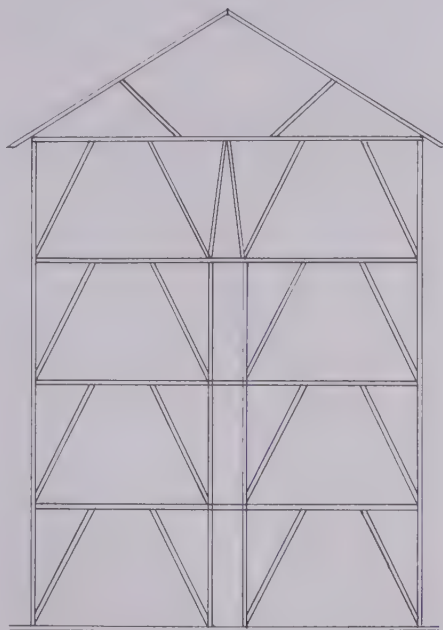
The two long cribs on either side of the ventilating space are again divided to give the structure four large bins of unequal size that anticipates storage of ear corn, beans, and oats, and are proportioned accordingly.

The manner of bracing the bins and the general design of the structure are more or less apparent from the photos and sketches herewith. The design utilizes nearly square sections of 2x8 studding (except at the top where 2x6 studding is used) built like box frames and tied together four frames high and 10 frames long on each side of the ventilating space. The sketch shows how the bracing is run from beam to beam in each

box frame so as to leave the floor clear, yet make a strong, sturdy building capable of standing for many years. Horizontal bracing between cross and side studding tie the corners of each section together and to each other to build up the structure.

The outside and end walls of the structure have 2x8 and 2x6 studs spaced one ft. apart. To these studs and to the built-up beams of each box-frame like section is nailed standard beveled crib siding to keep out the rain and snow, yet allow free ventilation. The hardware cloth lining of each bin lays between this siding and the studs to which it is nailed.

Attached to one end of this crib is an



Cross Section of Cleveland Grain Co.'s Ear Corn Crib at Metcalf, Ill.

18x24 ft. head house inclosing the leg, and the dumps, and thru which runs the 36 ft. long driveway connecting with the driveway of adjacent Elevator B.

A comparatively slow speed leg is used, driven with rope from a line shaft run by a 50 h.p. motor connected also with machinery in Elevator B. The leg carries 20x7 inch Western ear corn buckets. Its boot receives ear corn or grain from the single dump in the driveway, or from the return drag in the drag tunnel at the bottom of the ventilating space between the bins.

A turnhead at the top of the leg delivers into either of four spouts. Two of these

spouts are used for loading trucks. One leads to the sheller in Elevator B. The fourth empties onto an 8 inch horizontal conveyor belt in a trough running the length of the crib over the bins. The sides of this trough are in sections which are movable to cross the belt at an angle so as to sweep off ear corn or grain into a movable spout that drains into the bins. This follows the standard ear corn conveyor belt design, and enables the operator to avoid dropping ear corn a great distance except when starting to fill a bin. The sweeps across the belt are always adjusted so that ear corn drops at one edge of the pile already in the bin, and the pile is gradually and progressively built up the length of the bin. The same method is used for oats, and beans.

The crib has no loading spout, nor shipping scale. While it can be operated independently from other facilities of the Cleveland Grain Co. at Metcalf, it was built with intent to be operated in connection with the company's Elevator B, which is one of three elevators at Metcalf owned by this company and totaling nearly 300,000 bus. in storage capacity with shipping facilities on the Nickel Plate and the Baltimore & Ohio railroads.

Out of Metcalf is operated the Metcalf group of Cleveland Grain Co. elevators, which includes two elevators at Melwood, two at Quaker, two at Mortimer, and one each at Barnes, Cherry Point and Gordon.

State Warehousemen Hold Convention

State warehouse officials from Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Oklahoma, Oregon, Idaho, Wisconsin and Montana, attended the 2nd annual convention of the National Ass'n of State Warehouse Departments at Salt Lake City, Utah, Nov. 14 and 15. This ass'n was organized at the 1939 convention of the Grain & Feed Dealers National Ass'n, with Scott S. Bateman of Kansas City, Kan., warehouse examiner for the Kansas State Grain Warehouse Department, as president.

Uniform regulations for storage of grain in state licensed elevators were discussed by delegates at this year's meeting. Mr. Bateman said uniform standards are vitally needed in the grain industry.—P. J. P.

Huge Live Stock Show Opens Nov. 30

America's finest farm animals, from the Atlantic seaboard to the Pacific coast, and from Canada to the Mexican border, will soon be en route to Chicago for the contests of the International Live Stock Exposition, the country's largest agricultural show, which will be held from Nov. 30 to Dec. 7.

Farmers from 29 states and five provinces of Canada will compete in the 22nd annual International Grain and Hay Show, world's largest farm crops show, held in conjunction with the Exposition.

Of the three major American breeds of beef cattle, Shorthorns will be exhibited by owners from 15 states and two Canadian provinces; Herefords by breeders from 23 states and two provinces; and Aberdeen-Angus herds will be sent from 16 states and Canada.

More than a thousand purebred sheep will be sent to the show from 23 states and Canada.

Purebred horses, ranging from draft specimens, weighing over a ton, to the diminutive Shetland pony, will comprise one of the largest exhibitions in the history of the Exposition.

A majority of the railroads serving Chicago have announced the lowest round trip fares during the week of the live stock show.

A Mass Meeting of Millers will be held at St. Louis, Mo., Dec. 3 and 4 to consider vitamins as additions to flour.



Cleveland Grain Co.'s Elevator B and Corn Crib at Metcalf, Ill.

Patents Granted

[Since last publication in the Journal.]

2,219,227. Joint for Flexible Spouting. Addington W. Gerber, St. Louis Park, Minn. A section having spherical curvature is pivoted in the joint between two sections.

2,221,640. Grain and Flour Tester. Adrianus Kleijn, Rotterdam, Netherlands. Material supported within a completely submerged bell generates gases which are retained while expanded.

2,218,320. Feed Mixer. Louis Wenger, Sabetha, Kan. A horizontal drum contains beaters on a shaft. When one end of the drum is removed for scraping its interior clean, the shaft is hung on an auxiliary support.

2,217,112. Hulling Oats or Other Grain. Per Emil Hamring, Kvarnholmen, Sweden. Treating the grains with moisture, thereby causing a swelling of the grains and loosening of the inner husks and then subjecting the swelled grain to hulling by striking effect.

2,212,024. Tubular Belt Conveyor. Henry Stinson Johns, Cleveland, O., assignor to Bancroft Holdings, Ltd., Hamilton, Ont. The material is carried in the bore of a tube having a longitudinal slit. The tube partially extends in a spread open position around a pulley.

2,219,226. Grain Distributor. Addington W. Gerber, St. Louis Park, Minn., Registry of the spout from elevator head with bin openings is controlled by pulling on a cable attached to the spout. Means are provided to stop movement of spout when in registry.

2,221,396. Automatic Weighing Conveyor. Martin Evoy, Abington, Pa. Two feeders in tandem, one feeding the other, are controlled by a photoelectric cell, the light falling upon which varies with the load on the conveyor belt, so an even feed of the material is maintained.

2,214,277. Grain Separator. L. A. Hunt and C. C. Calkins, assignors to Calkins Mfg. Co. An agitator screen located beneath the carrier-flight of the conveyor, a pair of arms pivotally mounted in the frame and pivotally supporting the feed-end of the screen, and eccentric means mounted in the frame and having bearings on the screen adjacent the discharge end, and means for rotating eccentric means.

2,214,278. Seed Grain Disinfectant. Heinrich Klos, Wuppertal-Elberfeld, Germany, assignor to Winthrop Chemical Co., New York, N. Y. Dry seed grain disinfectant comprising basic methyl mercury nitrate, being a faintly yellow crystalline substance which is soluble in water while displaying an acid reaction, stable to the influence of air, and having a mercury content of more than 80% in admixture with a solid filler.

2,219,916. Corn Sheller. Frank T. Court, Moline, assignor to Deere & Co., Moline, Ill. On the shelling cylinder are means for forcing the shelled cobs radially outward, an enlarged housing section at the discharge end of the shelling housing for receiving the shelled cobs, means in said enlarged housing section for varying the size of the opening between said housing and said enlarged section for retarding the flow of cobs.

2,212,722. Grain Cleaner. Henry Van Dyke and Harold J. Van Dyke, Forest Grove, Ore. A grain sorter comprising a plurality of stacks of frames having power driven endless belts therein, said frames being inclined to the horizontal with the higher ends pivotally supported, a single vertically adjustable threaded shaft connected at spaced points to the lower ends of the frames, the connection between the shaft and each frame being independent and including a clip on each frame.

2,215,706. Grain Sampler. Frederick F. Lewis, Brady, Mont. The combination with a container having an openable discharge bottom and means for fastening said bottom, of an upper feed-head and neck forming a valve-seat, a grain mixing device within container, a depressible valve closing seat, interior, resilient means for holding the valve in its seat, and slidable means within the container for preventing egress of grain thru seat when the container may be inverted.

2,221,073. Dust Separator. Hudson H. Bubar, New York, N. Y. The deflector unit in the dust receiving chamber comprises a plurality of superimposed rows of spaced parallel open channel deflectors arranged in V-shape and having a collector funnel at the apex of V-shape extending thru the outlet chamber and into the dust receiving chamber, said dust receiving chamber being separated from said outlet chamber by spaced flat plates having outlet vents therebetween, one edge of each plate having a flange.

2,216,914. Grain Cleaner. Wm. A. Holtzman, Peoria, Ill. The cleaner housing has open end frames with symmetrically identical mounting means, inlet and discharge heads with mating mounting means permitting interchangeable removable mounting on either end frame, rotor mechanism reversibly and removably mountable in said heads to move grain in a scouring movement from one end to the other, and a cylindrical cleaning screen enveloping said rotor in the housing slidably removable by dismounting the discharge head.

2,214,920. Grain Separator. Claude C. Calkins and Laurence A. Hunt, Spokane, assignors to Calkins Mfg. Co., Spokane, Wash. A frame including side walls has mounted on it an endless conveyor rack, a screen frame and screen underlying the top lap of said conveyor rack, suspending means for screen comprising a pair of rigid links pivoted at their upper ends to side walls and at their lower ends to the sides of screen frame at each end portion of screen, said links being inclined downwardly toward the tail end of the separator in all positions assumed by the screen during its swinging movement, means for imparting an endwise swinging movement to said screen, and means for directing a blast of air thru screen from beneath.

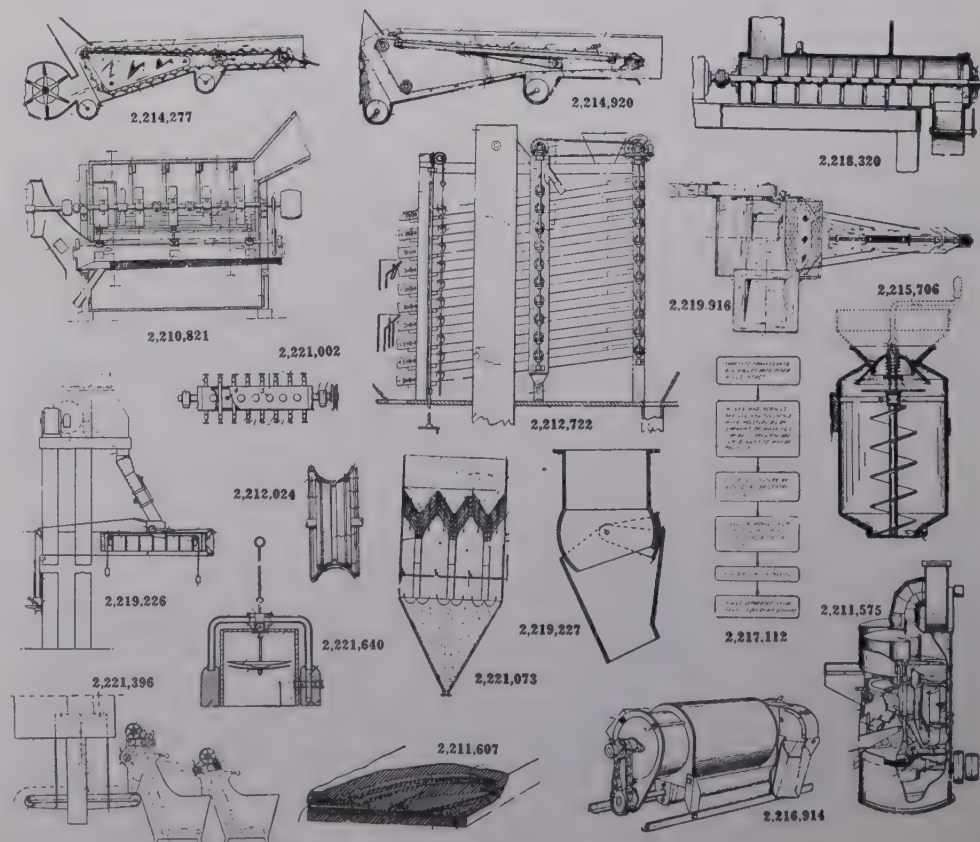
2,221,002. Hammer for Grinders. Henry J. Mankoff, Wichita, Kan. A cylinder in the form of a tubular body, a spindle secured to each end of said cylinder, means secured to one of said spindles for rotating said cylinder, a first series of sleeves spaced along said cylinder, said sleeves being in alignment and each sleeve passing diametrically thru said cylinder so that a portion of each end of each sleeve extends outwardly from said cylinder, a like series of sleeves, each sleeve of said second series also passing diametrically through said cylinder, the axes of each series of sleeves lying in a plane, the two planes of such axes of said two series being at right angles to each other, a shank telescopically mounted in each end of each of said sleeves, a disc co-axial with each shank.

2,210,821. Shuck-Sheller. Thos. V. Sharp, Mar-rero, La. A corn husking and shelling device, comprising a cylinder having a bottom, side walls and a top, a longitudinally extending shaft in said cylinder, longitudinally spaced transversely rotatable blades on shaft means to rotate said blades, said shaft being positioned in cylinder at a substantially greater distance from the top than the bottom thereof, and side walls extending upwardly to a substantial height above shaft and blades, to thereby form a relatively large space above the same adapted to contain a major proportion of the corn undergoing treatment and husks and cobs resulting therefrom.

2,211,575. Grain Separator and Aspirator. Haakon Mjolsness, Minneapolis, assignor to Haaky Mfg. Co., St. Paul, Minn. A grain separator including a vertical shaft, means for rotating shaft, a cylindrical screen on shaft, means for supporting grain adjacent screen to separate larger from smaller grain, means for spreading smaller grains to form substantially a cylindrical sheet, means for aspirating grains while in cylindrical sheet, a substantially horizontal screen for receiving the aspirated grains to separate the smaller particles of smaller grains from the larger particles thereof, and means on shaft spaced above horizontal screen for agitating said grain on screen.

2,211,607. Conveyor Belt. Samuel R. Reimel, Akron, O., assignor to B. F. Goodrich Co., New York. A conveyor belt comprising layers of individual cords having their cords extending lengthwise of the belt and spaced from each other, a layer of similar cords having its cords extending laterally of the belt and spaced from each other with the ends of the cords spaced at a substantial distance from the edge faces of the belt, and a covering of rubber-like material completely enclosing and separating the cords, said layer of laterally extending cords being located between layers of longitudinal cord and being of less width than the layers of longitudinal cords, the spaces between the ends of the laterally extending cords and the edge faces of the belt being filled with narrow layers of longitudinally extending cords.

Ottawa, Ont.—The Canadian government intends to take delivery of all of the 1940 wheat crop during the present crop year which ends July 31, 1941. Trade Minister MacKinnon announced in the house of commons, Nov. 22.



Books Received

DIRECTORY OF MILL EXECUTIVES lists all the active officials and executives of milling concerns that hold membership in the Millers National Federation, lists millers' associations and the staff members of each, and contains an alphabetical list of individuals connected with the milling firms. This "Who's Who in the Milling Business" contains no advertising. Third edition; paper, 48 pages. Published by the Millers National Federation, Chicago, Ill., for circulation to members.

MOTOR TRUCK RED BOOK contains a detailed discussion of Selection of Motor Trucks; Financing of Trucks; Terminals; Costs, Accounting; Insurance; Taxes; Tariffs; Rates; Laws, Federal and State; Regulations which apply to both large and small operators. Every phase of motor truck operation is treated. Administrative Rulings of the Bureau of Motor Carriers of the Interstate Commerce Commission will be found most valuable. Also included are summaries of important decisions of the Supreme Court. The appendix contains many standard and useful forms, such as: Driver's Accident Report; Truck Recording Accounting; Affidavit Forms for Damage, Shortage, Weights; Indemnity Agreements; Bills of Lading; Chattel Mortgage; Truck's Climbing Ability; Cost Estimates; Daily Accounting Record; Loss and Damage Claims; Dispatch Record; Equipment Recommendations; Monthly Accounting Record; Notice of Claim; Operation Survey; Pulling Ability; Claim Tracer; Daily Report Waybill, etc. This encyclopedic volume contains 925 pages, 8x11 ins., in durable flexible cloth binding. The 1940-1941 edition is just off the press, by the Traffic Publishing Co., New York, N. Y. Price, \$10.

FEEDING FARM LIVESTOCK, by Earl Woodell Sheets. The extremely worthwhile stature of this authoritative manual is attested by the prominence and wide experience of the author. Professor Sheets, who was former Chief of the Animal Husbandry Division of the U. S. Depart. of Agri., is now head of the Animal Husbandry Departments of West Virginia University and Mississippi State College, as well as the conductor of valuable experiment stations at both of those institutions. As the author says, there is no lack of material today on most of the feeding problems which troubled the livestock farmers of ten or twenty years ago. Research workers, teachers, and advanced stu-

dents in agricultural circles usually have at hand the newest and best reference works. "Feeding Farm Livestock" is meant to bridge the gap between such workers and the farmer himself who is, after all, the man who has the responsibility of feeding and caring for the country's livestock. The book, therefore, is technically correct, and practical enough to be used as a working manual. "Feeding Farm Livestock," as offered is given free with one pint of cold-pressed wheat germ oil. For details write A. J. Pacini, Archer-Daniels-Midland, Minneapolis, Minn.

Demand for storage space has led many country elevator operators to lease barns and warehouses wherever available. The Commodity Credit Corp. has discouraged storage of C. C. corn in facilities not equipped with facilities for mechanically turning and handling its grain.

New Elevator and Feed Mill at George, Ia.

The Farmers Elevator Co. suffered the loss by fire of its entire plant at George, Iowa, and awarded the contract to the T. E. Ibberson Co. for the building of a new set of buildings, as shown in the accompanying engraving.

This is a 25,000 bus. cross-type workfloor elevator, fitted with 16 bins and a 30 ft., 30 ton scale, along with Strong Scott air dumps, a Richardson automatic scale for shipping and a Hart-Carter cleaner. One leg of 4,000 bus. capacity per hour was installed.

A feed mill detached, with a large warehouse, was built as shown, which contains a one ton mixer, a corn cracker and a grader as well as an oat huller. Two legs were provided in this feed mill, and a receiving driveway, special bins for storage of oat hulls, and 12 processing bins. All of these buildings are covered with galvanized iron. A full basement was provided under the office and equipped with a heating plant.

Two separate driveways have been provided at the grain elevator and one driveway at the feed mill for receiving and delivery of bulk feeds to the customer. The T. E. Ibberson Co. installed special Ibberson mash bins and equipment for the processing of feeds. A full basement was provided under the feed mill.



Improved Facilities of Farmers Elevator Co., at George, Ia.

Grain Shipping Books

Railroad Claim Blanks duplicating, three different books, five forms, 8½x11 in., \$2 each book, plus postage.

Shipping Notices duplicating, 50 originals of bond paper, 50 duplicates, press board cover, 5½x8½ inches, weight 8 ozs.; 2 sheets of carbon. Price 70 cts. plus postage.

Shippers' Certificate of Weight duplicating, 75 originals of bond paper, 75 duplicates. Press board hinged back covers, three sheets of carbon, 4½x9¾ inches, weight 11 ozs. Price 95 cts., plus postage.

Grain Shipping Ledger for keeping a complete record of 4,000 carloads. Facing pages are given to each firm to whom you ship and account is indexed. Book contains 80 double pages of ledger paper with 16-page index, size 10½x15¾ inches, well bound with black cloth covers and keratol back and corners. Weight, 4 lbs. Order Form 24. Price, \$3.50, plus postage.

Shippers Record Book is designed to save labor in handling grain shipping accounts and provides for a complete record of each car shipped. Its 80 double pages of ledger paper, size 9¾x12 inches, provide spaces for 2,320 carloads. Wide columns provide for the complete record of all important facts of each shipment. Bound in heavy black cloth with keratol back and corners. Shipping weight, 2½ lbs. Order Form 20. Price \$2.50, plus postage.

Sales, Shipments and Returns. Is designed to save time and prevent errors. The pages are used double; left hand pages are ruled for information regarding "Sales" and "Shipments"; right hand page for "Returns." Column headings provide spaces for complete records of each transaction on one line. Book contains 80 double pages of ledger paper, size 10¾x16 inches, with 8-page index. Spaces for recording 2,200 carloads. Bound in heavy gray canvas with keratol corners. Weight, 3¾ lbs. Order Form 14AA. Price \$3.35, plus postage.

Record of Cars Shipped facilitates keeping a complete record of cars of grain shipped from any station, or to any firm. It has column headings for Date Sold, Date Shipped, Car Number, Initials, To Whom Sold, Destination, Grain, Grade Sold. Their Inspection, Discount, Amount Freight, Our Weight Bushels, Destination Bushels, Over, Short, Price, Amount Freight, Other Charges, Remarks. Book contains 80 double pages of ledger paper, size 9½x12 inches, with spaces for recording 2,320 carloads. Well bound in heavy black pebble cloth with red keratol back and corners. Shipping weight, 2½ lbs. Order Form 385. Price \$2.50, plus postage.

Grain & Feed Journals

CONSOLIDATED

332 South La Salle St., Chicago, Ill.

Grain Carriers

The Santa Fe has ordered 2,000 box cars of the Pullman Co.

The Bessemer & Lake Erie has let contract for 300 box cars.

Rates on grain and grain products from Mt. Vernon, Ill., to Cairo are increased by the Ill. Cent. in Supp. 20 to tariff 1537-K, effective Nov. 28.

Reductions in grain rates from northern Illinois to southern Wisconsin points amounting to over 50 per cent were made by railroads Oct. 25 to meet truck competition.

Rates on grain and grain products from Nashville-Noltings, Ill., to Cairo are increased effective Nov. 25 by the Missouri Pacific in Supp. 84 to tariff No. 6989-F.

Buffalo, N. Y.—The first cargo of wheat to be held in winter storage for unloading here in the spring was 323,000 bus. of spring wheat loaded at Duluth, and accepted at a rate of 4c per bu.

Shippers' Advisory Board meetings have been announced for the Ohio Valley Dec. 10 at the Hotel Gibson, Cincinnati, O., and for the Central West Dec. 10 and 11 at the Plains Hotel, Cheyenne, Wyo.

Grain and grain products were loaded into 33,815 cars during the week ended Nov. 9, compared with 37,697 during the corresponding week a year ago, and 32,003 during the comparative week in 1938, reports the Ass'n of American Railroads.

Kansas City, Mo.—Instead of pressing constructive transportation proposals of their own, or even cooperating in this critical fight (which is a common menace to all) there is an inter-market discord and an inter-railroad discord that should be eliminated.—S. C. Masters.

Each type of transportation, viewing the entire question from the point of view of public welfare, should be allowed to serve the public on the basis of its own costs and innate characteristics. No type of transportation should be handicapped or restrained by having imposed upon it limiting factors which are characteristic of one or more other types of transportation.—Chester H. Gray.

Mineapolis, Minn.—In view of the limited amount of boats available for transporting cargoes between Argentina and North America, freight rates continue strong with some owners asking as much as \$12 per ton from Buenos Aires to New York. As far as we know, however, no space has been booked at this figure. The firmness in the freight market has practically neutralized the recent decline in seed prices as far as a c. i. f New York price is concerned.—Archer-Daniels-Midland Co.

If politicians will but be as realistic and practical in their responsibility for public policies, with respect to transportation, as railroad men have been in advancing their own efficiency, railroad men will be able to demonstrate a permanent solution of the country's transportation problem; with all commercial carriers fully supporting themselves, and with none leaning on taxpayers for partial support.—Z. G. Hopkins, of Western Railways Com'ltee on Public Relations.

The grain-laden steamship Anna C. Minch and its crew of 33 men went down in 40 ft. of water in Lake Michigan a mile and one-half south of Pentwater, Mich., in the storm of Nov. 11. The boat was built at Cleveland in 1903 and had a capacity of 250,000 bus. of wheat. It was operated by Sarnia Steamships, Ltd., under lease from Western Navigation Co., owner. Its preceding trip was on Nov. 8 with 3,134 tons of screenings from Fort William for the Santa Fe elevator at Chicago.

The Arkansas Corporation Commission has filed a protest with the Interstate Commerce Commission on rates for rough rice shipments quoted in a tariff just issued by the Missouri Pacific and Frisco railroads. The flat rate from Arkansas producing area to Memphis, Tenn., mills is 7½ cents per 100 pounds, which rate, Tom E. Wood said, was about half that for rice shipments to mills within Arkansas. Mr. Wood said the rates would not permit Arkansas millers to buy rice in competition with Memphis processors.—J. H. G.

In my judgment the evolution of transportation in the last three decades has made government ownership of railroads increasingly undesirable. Three decades ago air and pipeline transportation were unknown, water competition was of minor importance, and highway transportation instead of being a competitor was a feeder to the railroads. The natural evolution of the government ownership plan would be to take in all the competing agencies with a duplication of service and deficits.—Clarence F. Lea, Chairman, Committee on Interstate and Foreign Commerce, House of Representatives.

Portland, Ore.—A new freight rate adjustment very favorable to Portland manufacturers and distributors will be made by both the common carrier trucks and the rail lines effective about the first of January, 1941. The new rates will be on a mileage basis and as the distance to most southern Oregon points is less from Portland than San Francisco the Portland rates on all quantities up to 20,000 pounds will be substantially lower from Portland. As the rates on carload lots has been set by the Interstate Commerce Commission they will not be changed by this adjustment.—Edward F. Brady.

Reduced rates on lespedeza seed are expected to become effective by Jan. 1, according to J. Geo. Mann, chairman traffic committee of the American Seed Trade Ass'n. The present rates applicable to lespedeza are Column 26½ with a minimum weight of 30,000 pounds; see Item 4730 of Western Trunk Line Tariff 25 and Item 8620 of Southwestern Tariff 173-M. The application proposed the establishment of Column 21½ with a minimum of 40,000 pounds and Column 19 with a minimum of 60,000 pounds. The Freight Traffic Manager Com'ltee, approved publication of Column 21½ rates with a minimum of 40,000 pounds which reflects a reduction from Column 26½.

Kansas City Rate Suit Heard

Justices Seth Thomas, Merrill E. Otis and John Caskie Collet heard argument for the Kansas City Board of Trade and other Missouri River markets in the federal court at Kansas City and on Nov. 11 gave attorneys 15 days to file briefs.

Until 1935 the rate-breaking points, including Kansas City, had the same transit privileges as off-river points. In 1935, however, the I. C. C. ordered that the river points should ship on a combination of local rates and proportional rates, thus penalizing the rate-breaking points. These rate-breaking points are St. Louis, Kansas City, St. Joseph, Atchison, Leavenworth, Omaha and Minneapolis.

The result was that other points in this area were given the privilege of stopping grain in transit, processing it, and sending it on to its destination on a through rate that was lower than the combination local and proportional rates that applied to the rate-breaking points.

The advantage of the interior points over the river points include:

From Kansas City to Chicago, 6½c per cwt. Omaha to Chicago, by way of Kansas City and other points, 6½c.

South Texas to St. Louis by way of Kansas City, 8c.

Centerville, Ia., to St. Louis, 11c.

Indianola, Ia., to St. Louis, 9c.

The Toledo ex-lake export grain complaint by the Toledo Board of Trade was heard Nov. 19 by the Interstate Commerce Commission at Washington, C. B. Tefft, transportation commissioner, making the argument. A. E. Schultz, sec'y of the Board of Trade, says "Toledo has facilities for handling exports thru Baltimore and the distance to Baltimore is approximately the same as from Buffalo to that port. If a parity of rates can be established, rates such as were in existence between Toledo and Baltimore several years ago, a substantial part of the domestic and Canadian ex-lake grain tonnage may be drawn thru the port of Toledo. This would mean a great deal not only to Toledo grain interests, but to shipping and business interests as well."

Back Pay Under N. L. R. B.

The Supreme Court of the United States held that the National Labor Relations Board had no authority to require an employer to pay to government agencies the amount paid by them to employees of the company who had been discharged and were ordered to be reinstated with back pay. The court held that the board was right in providing that the amount paid to the employee as back pay should be arrived at by deducting the amount received by the employee while working on relief projects, since the payment of this reduced amount is all that is necessary to make the employee whole.

The court did not find that the payment to the government agencies of amounts paid by them for services performed by the discharged employees would further the purposes of the act, which are the protection of the employees and the redress of their grievances. The act is remedial in its nature and not penal. It does not prescribe penalties or fines in vindication of public rights or provide indemnity against community losses.—Republic Steel Corporation v. National Labor Relations Board.

Right to Inspect Books Given Wage-Hour Division

Grain and feed dealers and other employers are required to give examiners for the federal Wage-Hour Administration access to their records, whether or not they believe themselves engaged in interstate commerce, according to Federal Judge Michael L. Igoe, who ordered the G. & C. Novelty Co., Chicago, Ill., to obey a subpoena issued by Thomas O'Malley, regional director for the wage-hour administration.

Counsel for the novelty company argued that the firm did not ship its goods in interstate commerce, but sold to another firm located in Chicago. This, the judge ruled, was no defense.

Judge Igoe's order follows the recent refusal of the U. S. Supreme Court to interfere with a Circuit Court of Appeals decision, in the Montgomery Ward case, also in Chicago. This decision stated the Wage-Hour Division is entitled to inspect a firm's books, regardless of whether or not a complaint has been issued charging the firm with specific violation of the wage-hour law.

Macon, Ga.—Over 1,250 tons of peanuts were tied up as "hot goods" when Judge Bascom Deaver issued a temporary restraining order against the Farmers Peanut Co., of Cairo, Ga., on petition of Col. Philip B. Fleming, administrator for the Wage-Hour Division of the U. S. Department of Labor. The complaint charges the peanut company with paying wages of 12½ to 20c per hour, with working employees as long as 70 hours per week without paying overtime, and with taking unfair advantage of its competitors thru price-cutting made possible by sub-minimum wages.

Substitutes for Carbon Bisulfide in Grain Fumigation

By M. D. FARRAR, Research Entomologist, Illinois Natural History Survey, Urbana, before Cereal Chemists.

With the advent of the ever-normal granary program, the interest in problems of grain storage has increased.

Because of its accepted fire hazard, warehouses have not used carbon bisulfide for many years. However, from the farm viewpoint it was effective and cheap.

CARBON BISULFIDE is still considered by many persons as the best fumigant for farm use where an efficient, low-cost material is desirable. However, the ever-present fire and explosion hazard of this gas makes its continued use questionable.

New materials have entered the field of grain fumigation. The fire and explosion hazard of these fumigants has been reduced or eliminated and efficiency increased. Increased demand has made them easily available and competition has reduced costs. They may now be bought by the public at costs little in excess of the more dangerous gas. A definite swing toward the use of less hazardous fumigants is now evident. Government agencies are rapidly changing their recommendations to eliminate the continued use of carbon bisulfide as a grain fumigant.

For fumigation of grain in open bins, three gases are being used commercially.

ETHYLENE DICHLORIDE, 3 parts, and carbon tetrachloride, 1 part, as a mixture is the most important. This material is the most practical for general use. Sold under several trade brands, the mixture is available at from 75 cents to \$1.25 per gallon. When used at 5 gallons per 1,000 bushels, the cost of treating grain is under 0.5 cents per bushel. For small lots of grain, 200 to 1,000 bushels, such as found on farms, the dosages and costs may be somewhat higher.

From the viewpoint of farm or ever-normal granary insect storage problems, this mixture has many advantages. When properly used, there is little or no danger of fire or explosion. The liquid is non-corrosive and evaporates slowly in storage. The quantity required is sufficiently high to eliminate the small, high-priced package. When sold in 50-gallon drums the cost is low enough to warrant its use on farm-stored grain.

The application is simple and can be done by farm labor under competent direction. This is a decided advantage for a material that must be used in widely scattered areas with inexperienced labor. It is easily applied by hand or power pumps, with a minimum of hazard or discomfort to the operator.

The gases from the mixture will kill all grain insects below the surface and within the grain mass when used at sufficient dosage. Grain so treated retains no objectionable odors which would make the grain unsuitable for sale or feed.

CHLOROPICRIN (tear gas) is in most respects an excellent grain fumigant. The very nature of the gas restricts the use of this material to the experienced operator. When properly applied, either alone or in mixture with some other toxic gas, good insect kills can be secured. Grain and feed treated with chloropicrin aerate slowly, which is a definite objection to its use as a grain fumigant. The germination of grain or other seeds may be severely damaged by exposure to chloropicrin gas. The length of exposure, concentration of gas, and percentage of moisture in the product all influence this effect.

METHYL BROMIDE, a relatively new gas, is rapidly entering the fumigating field. This gas has high toxic properties and probably will find its place in grain fumigation after we have learned how to take advantage of its properties. The gas is difficult to hold except in very tight bins or warehouses. When mixed with other materials this weakness may be partly

overcome. Grain or feed stocks treated are quickly aerated, which is greatly in favor of methyl bromide.

Various "trade brands" of commercial fumigants are on the market. They have a place in the grain trade for treating grain sufficiently to meet grade standards of grain. As a substitute for carbon bisulfide on farms, their use is limited. The costs of these commercial fumigants are high, and the recommended dosages low. Only by increasing the dosage to that of a recognized fumigant can insect kills be secured comparable with the ethylene dichloride-carbon tetrachloride mixture.

Corn Borer in Ontario

A large increase in the numbers of European corn borer thruout Ontario is reported by S. H. H. Symons, statistician and economist for the Ontario Department of Agriculture, Toronto. He advises destruction of as much corn refuse as possible before next spring, describing the method as follows:

Where corn stubble is ploughed extra care is necessary this year to see that all stubble is buried. This can be done with a wide-bottom plough and by seeing that the last furrow before the stubble row is ploughed as close as possible to the stubble, without disturbing it. In the following round, the slice in which the stubble occurs falls into the bottom of the preceding furrow to a depth of five inches.

In cases where corn has not yet been cut the owners are urged either to cut these fields at the soil level before they are frozen hard, or, if they are left until winter, to break off such stalks when there is little snow. Frozen corn stalks snap off easily at soil level. Barn timbers, heavy railroad irons, or even planker-drags are

satisfactory for this purpose. The devices should be hitched so that the outer end travels two or three feet in front of the other end, to roll the stalks, as they are broken off, into a windrow.

Unconsumed stalks should be removed from mangers or elsewhere where they are fed to livestock and destroyed before they become tramped into manure.

The Supreme Court held that a corporation prevented by State law from paying dividends because of an impairment of its capital is nevertheless subject to the undistributed profits tax of 1936.—*Crane-Johnson Company v. Commissioner and Commissioner v. Northwest Steel Rolling Mills.*

Concrete Bin Withstands Blaze

When lightning struck the Golden Rule elevator of Glen E. Long and William Malott, at Hooper Station, Ill., Sept. 8, it kindled a blaze that burned the wooden structure to the ground and threw 5,000 bus. of grain into salvage.

A reinforced concrete grain storage bin under construction only 18 inches from the wooden elevator survived the blaze unharmed, tho the walls, on which pouring had been completed hardly 12 hours earlier, were subjected to intense heat and fire fighting punishment when firemen attempted to bring the fire under control.

The picture herewith shows the ruins of the fire, and the concrete tank J. E. Reeser & Son were erecting, with the steel forms still around the top of the tank. It was taken while the ruins were still smoldering.



Reinforced concrete tank of Golden Rule Elevator at Hooper Station, Ill., was left unharmed by blaze that destroyed elevator.

1940 Corn Loan Rate

The Department of Agriculture has announced that the Commodity Credit Corporation will make loans on 1940 corn to farmers in the commercial corn area at 61 cents per bushel. The 1940 rate compares with a loan of 57 cents per bushel in 1939.

Other principal changes in the 1940 loan program, designed to encourage longer term storage, are: (1) the period during which loans are available has been extended from four months to 10 months; and (2) the term of the loan has been extended from one year to three years.

Corn loans are made in connection with the AAA Farm Program to stabilize prices by enabling farmers who cooperate in the program to market their corn in an orderly manner, rather than releasing the corn on an over-supplied market at harvest time. They also make possible the establishment of an Ever-Normal Granary reserve supply of corn that protects both farmers and consumers against shortages.

The rate announced is mandatory under the Agricultural Adjustment Act of 1938 in view of the November corn crop estimate and latest estimates on the national average corn price. The Act provides that loans shall be made at 75 per cent of parity in any year when the corn crop is less than a normal year's domestic consumption and exports and the price on Nov. 15 or at any time thereafter during the marketing year is less than 75 per cent of parity.

The November crop estimate indicated a 1940 corn crop of 2,434 million bushels, or less than a normal year's domestic consumption and exports for 1940-41 estimated at 2,490 million bushels. The Nov. 15 national average farm price of corn is estimated at 56.9 cents per bushel, or approximately 70 per cent of parity. With the parity price of corn at 81.5 cents per bushel, the 1940 loan rate is 75 per cent of parity, or 61 cents per bushel.

Loans will be made at this rate to farmers in the commercial corn area who did not exceed their 1940 corn acreage allotments. The rate in the commercial area for corn grading as "mixed" will be 59 cents per bushel. The 1940 commercial corn area includes 599 counties in the States of Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota and Wisconsin.

As provided in the Agricultural Adjustment Act, loans will be available to farmers outside the commercial corn area at 75 per cent of the commercial area rate. This rate will be 46 cents per bushel for yellow or white corn and 44 cents per bushel for "mixed" corn. Any producer outside the area who planted within his 1940 total soil-depleting crop allotment will be eligible for a loan.

The 1939 corn loan rate was established at 70 per cent of parity, or 57 cents per bushel on the basis of the 1939 corn crop. Under the 1939 program, farmers obtained loans on about 302 million bushels of corn, the largest amount ever placed under loan from one year's crop.

Previous corn loans have been made for only one year, but in 1938 and 1939 many farmers extended their loans and resealed their corn for an additional year. In the 1940 resealing program, farmers were offered the option of resealing their stored 1938 and 1939 corn for either one year or two years.

Loans on 1940 corn will be available from Dec. 1, 1940, to Sept. 30, 1941, and will mature on Aug. 1, 1943. Like all other commodity loans, they will be callable on demand. A farmer may redeem his corn at any time during the loan period upon payment of the loan plus 3 per cent interest.

Every corn loan borrower will be asked to give assurance of storage of the corn until Oct. 15, 1943. For tenants this assurance would involve the land-owner's consent. However, a farmer may deliver his corn in full settlement of his loan at the end of the second year—during August, September and October, 1942—upon 30 days written notice to the AAA committee for his county.

In case a farmer loses possession of the farm on which the corn is stored or receives written notice from his landlord requesting removal of the corn from the structure in which it is stored, he may deliver the corn in settlement of his loan during August, September or October, 1941, again provided 30 days notice is given to the county AAA committee. This provision is expected to encourage landlords to cooperate with tenants in the three-year loan program. In order that short term loans may be avoided, the one-year delivery option is available only on loans obtained before April 1, 1941.

Loans will be available throughout the loan period on ear corn and from July 1 to Sept. 30, 1941, on shelled corn which has been thoroughly dried in crib storage before shelling. To be eligible for loan, corn must grade No. 3 or higher, except for moisture content and test weight.

Maximum moisture content acceptable in loan corn will vary with the time the loan is obtained, as follows: ear corn, between Dec. 1, 1940, and Feb. 28, 1941, 20½ per cent; ear corn, between March 1, 1941, and April 30, 1941, 17½ per cent; ear corn, between May 1, 1941, and Sept. 30, 1941, 15½ per cent; shelled corn, between July 1, 1941, and Sept. 30, 1941, 13½ per cent.

A bushel of ear corn will be 2½ cubic feet of corn testing not more than 15½ per cent moisture content. In case of ear corn offered as collateral with a moisture content of more than 15½ per cent but less than the maximum acceptable, loans will be made at the full rate per bushel but deductions will be made in the total volume to offset the shrink that will occur as the corn dries. A bushel of shelled corn will be 1¼ cubic feet of corn testing not more than 13½ per cent moisture content.

Of the 557,000,000 bus. of corn accumulated in Government loan programs since 1937, the Commodity Credit Corporation reports that on Nov. 9, 112,000,000 bus. had been either sold by the Corporation or redeemed by farmers, 100 million bushels had been resealed under the 1940 loan extension program and 345 million bushels remained under original loans or 1939 renewal loans or were owned by the Corporation.

Freak Shuckless Ear of Corn Grown in Indiana

E. C. Hutslar, Milltown, Ind., broke into the consciousness of the public recently when Cartoonist Robert Ripley sketched in "Believe It or Not," a shuckless ear of corn grown by him. Mr. Hutslar writes:

"We found the shuckless ear in our garden, standing erect on top of the stalk, with only a small piece of tassel growing right beside it.

"The corn we planted was of an early variety, Early Adams, and not a large variety. This freak ear was 5 or 6 inches long, and really well filled, except that some grains were a little larger than others. There was no blight, and only a few silks were hanging on the ear."

Piedmont Millers Discuss Legislation

Federal legislation was the primary subject discussed before the annual convention of the Piedmont Millers Ass'n, held at the O. Henry Hotel, Greensboro, N. C., Nov. 8, with 100 in attendance. J. E. Key, Buena Vista, Va., president, presided over both business sessions.

AL KRUEGER, of the Washington, D. C., office of the Millers National Federation, led the round table discussion on legislation, devoting a large share of the time to the Wage-Hour Act and to I. C. C. regulations covering trucks and trucking.

Other speakers on federal legislation included William S. Mason, sec'y of the Reidsville Chamber of Commerce, and W. A. Henderson, of Monroe. The latter urged closer cooperation among the members of the industry.

Receiving Books

For Grain Buyers

Farmer's Deliveries. A convenient form for recording loads of grain received from farmers. Tare weight is entered immediately under gross to facilitate subtraction. Two hundred pages of linen ledger paper, ruled 20 lines to a page, thus accommodating 4,000 loads. Well bound in cloth, with keratol back and corners. Order Form 380. Weight 2¾ lbs. Price \$2.50, plus postage.

Receiving and Stock Book for keeping a record of each kind of grain received in separate columns, so buyer may easily determine total amount of any grain on hand. Size 9¼x11½, 200 pages, with a capacity for 4000 loads. Well printed on linen ledger paper, bound in cloth with keratol back and corners. Order Form 321. Weight 2¾ lbs. Price \$2.50, plus postage.

Grain Scale Book, a combined Journal and Receiving book. Each man's grain is entered on his own page. Both debits and credits are posted to the ledger. Contains 252 numbered pages and 28 page index, size 10½x15½ inches, will accommodate 10,332 loads. Printed on linen ledger, bound in extra heavy black cloth covers, with keratol back and corners. Weight 5 lbs. Order Form 23. Price \$4.00, plus postage.

Grain Receiving Register is designed for recording the receipts of farmers' grain. Loads may be entered in consecutive order, or different sections of the book may be devoted to different kinds of grain. Book contains 200 pages of linen ledger paper, size 8½x14 inches, each of which is ruled for 41 entries, giving a total capacity of 8200 wagon loads. Well printed and substantially bound in full canvas. Weight 3 lbs. Order Form 12AA. Price \$2.55, plus postage.

Duplicating Receiving Book, designed to facilitate the recording of loads received from farmers. Book contains 225 leaves, size 12x12 inches with 33 lines each, perforated down the middle; the inside half of the leaf remains in the book, and the outer half with the same ruling printed on the reverse side, folds back over the inside half with carbon between. It may also be used by line agents in making daily reports. Check bound with canvas back, nine sheets of carbon. Weight 4½ lbs. Order Form 66. Price \$2.60, plus postage.

Grain Receiving Ledger, may be used first as a Stock Book by posting the receipts daily, weekly or monthly from some other portion of this book, or from any other scale book, giving a page to the grain handled; Second, as a patrons' ledger, by giving a full or half page to each patron; Third, pages may be used to enter each load of grain received in consecutive order under their respective headings. Contains 200 numbered pages with 44 lines to page, and a 28-page index, size 8½x13½, ruled with the usual column headings, including Debit and Credit columns. Printed on linen ledger paper and well bound in black cloth sides with keratol back and corners. Weight 2½ lbs. Order Form 43. Price \$3.00, plus postage.

Form 43XX contains 428 pages same paper and ruling as Form 43. Weight 4½ lbs. Price \$5.00, plus postage.

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Grain and Feed Trade News

Reports of new elevators, feed mills, improvements; changes in firms; fires, casualties, accidents and deaths are solicited.

CALIFORNIA

Crescent City, Cal.—Manosar's City Wholesale Feed Store was damaged by fire recently.

Alhambra, Cal.—El Molino Mills is building a mill and sales office, the new structure to be completed about Jan. 1. Building and equipment will represent an investment of about \$30,000. E. A. Vanderbrook, head of the firm, stated. There will be 4,500 sq. ft. of floor area in the new building. The present mill will be leased for store purposes. The El Molino Mills sells whole grain products and specializes in soybean meal. Edward W., Clare R. and Eugene L. Molino are associated with their father in business.

CANADA

Winnipeg, Man.—R. S. Law was re-elected president of the United Grain Growers, Ltd., at a recent meeting of the directors held at Calgary, Alta. D. G. McKenzie, Winnipeg, and John Morrison, Yellowgrass, Sask., were re-elected first and second vice-presidents respectively.

Victoria, B. C.—A renewal of a lease on the Ogden Point elevator under which the Gillespie Grain Co. will guarantee the city 50 per cent of the operating profits for another 12 months has been secured by the city council. A minimum guaranty of \$16,000 per year is contained in the lease, an increase of \$1,000 over the amount promised for the preceding 12 months operation of the plant.

Toronto, Ont.—The annual report of the Toronto Elevators, Ltd., and its subsidiary, the Sarnia Elvtr. Co., Ltd., for the year ending July last shows a gain in operating profits as compared with the preceding year, \$522,111 against \$310,702. Although there was a much heavier write-off for taxes, the net profit was higher at \$242,131 compared with \$138,912 the year before. It is the best year in net profits since 1934.

Winnipeg, Man.—Edward James, 74, pioneer member of the Winnipeg Grain Exchange, died recently. He had retired from active work about 10 years ago. Mr. James in his early career was a partner in the elevator business at Moosomin, Sask., operating as Bingham & James. He came to Winnipeg in 1899. He was identified with the late W. W. Bettingen & Co., and was manager in Winnipeg of the Imperial Elvtr. & Lumber Co. Later he became manager of the Inter-Ocean Grain Co.

Winnipeg, Man.—H. E. Riley, 50, terminal manager of the Canadian Consolidated Grain Co., died recently of injuries received when his automobile overturned. Mr. Riley swerved the car to avoid striking a cyclist. Mr. Riley was the son of the late Joseph Riley, pioneer grain merchant. He began his career in the grain trade at the age of 17 when he became associated with the Simpson-Hepworth Grain Co. Later he was on the staff of the R. B. McLean Grain Co. In 1927 he became a member of the Winnipeg Grain Exchange and was then associated with the McCabe Bros. Grain Co. Later he joined the staff of the Canadian Consolidated Grain Co., Ltd., as terminal manager, which post he held until his death.

Calgary, Alta.—The United Farmers of Alberta have requested the Dominion government to make further interim payment on 1939 wheat sold thru the Canadian wheat board. The settlement to farmers so far has been on the basis of the 70-cent fixed price "and it is the general belief there will be more money forthcoming for payment on last year's crop" Norman F. Priestly, vice-president of the U. F. A. stated. Because quotas are restricting deliveries of this year's crop, the U. F. A. feels the government should expedite further payment on 1939 wheat, he said. The U. F. A. is also urging that the initial payment of 70c a bu. for No. 1 northern, basis Fort William and Vancouver, which has been in force for the past two years, be raised.

Port Arthur, Ont.—Sale of the N. Bawlf Grain Co., Ltd.'s, assets to the Alberta Pacific Grain Co. for \$1,000,000 cash has been approved by shareholders in the former company. The Alberta Pacific Grain Co. under terms of the offer assumes liabilities of the Bawlf company, including a mortgage of \$205,000 on the Bawlf terminal elevator here. In addition to the terminal elevator the Bawlf company owns 130 country elevators. Acquiring the Bawlf assets will give the Alberta Pacific a terminal at the head of the Great Lakes as well as Vancouver. Final approval of the sale followed the lifting on Nov. 6 in the courts of an interim injunction granted the week before restraining shareholders of the N. Bawlf Grain Co. from taking any action in connection with the offer to purchase made by the Alberta Pacific Grain Co.

Fort William, Ont.—Construction of temporary timber grain storage space totalling 200,000,000 bus. at a reasonable cost is feasible and the Lakehead is the most logical location for such construction, M. J. Fleming, president of the C. D. Howe Co., Ltd., told the Lakehead branch of the Engineering Institute of Canada at a dinner meeting Nov. 20. The grain could be unloaded and cleaned thru the present terminals, then top grades could be placed in the timber storage space to remain there until it was needed. Some guarantee perhaps should be given by the wheat board of use of the temporary storage space for a time sufficient to retire the cost of construction, estimated at two years, he said. If this was given, Mr. Fleming suggested, the trade should construct such storage facilities now. The wheat board possibly could build the storage, but "I see no reason for anyone else going into the business."

COLORADO

Grand Junction, Colo.—Twenty-five employees of the Colorado Milling & Elvtr. Co., employed at the Mesa Flour Mills here and the branch mills and elevators at Delta, Montrose and elsewhere over the western slope, met here for a dinner and meeting recently for a general conference and discussion of milling and feeding problems. Dr. W. C. Tully, research director, spoke, his subject dealing with scientific feeding of livestock.

ILLINOIS

Beardstown, Ill.—Stock of Schultz Baujan & Co. was damaged by a fire Nov. 18.

Kent, Ill.—Mahoney & Son recently installed a No. 6 "T" Kelly Duplex Ear Corn Crusher and Feeder.

LeRoy, Ill.—Hasenwinkle Scholer Co. sustained a small loss at their plant from high winds on Nov. 11.

Mackinaw, Ill.—We have sold our business to Clifford E. Roseman.—Wm. T. Elliff, pres., Mackinaw Farmers Grain Co.

Murphysboro, Ill.—High winds on Nov. 11 caused a small amount of damage at the Southern Illinois Mill & Elvtr. Co. plant.

Pontiac, Ill.—Ray H. Morris of Chenoa has taken over the Big Chief Milling Co. mill and will operate it as the Pontiac Milling Co. He plans to remodel the building. Mr. Morris also operates the Chenoa Milling Co.

West Union, Ill.—I am erecting a new building to house my feed department, and equipping it with a new hammer mill, a power unit, a corn sheller, and a 1 ton vertical Kelly Duplex feed mixer with floor level feed.—Paul Crumrin.

Metropolis, Ill.—The Massac County Grain Co., which is negotiating for construction of a grain elevator here has been granted an outward or inward track on Front street for loading and unloading at the company's proposed grain elevator. Otie Stiles is manager of the Massac County Grain Co.

Bethany, Ill.—The Bethany Grain Co. recently installed a 20-ton 34-ft. platform scale at its elevator.

Lebanon, Ill.—Ed Smith, 45, miller at the Pfeffer Milling Co., was fatally injured Oct. 26, when caught in a fly wheel.—H. H. H.

Cherry Valley, Ill.—William Lembke, owner of a feed grinding mill here, has been appointed superintendent of the Winnebago County farm home and hospital.

Vandalia, Ill.—Ed Robinson, for the past 12 years local manager of the Elam Grain Co. owned by the estate of the late Robert Deibel of St. Louis, Mo., has purchased the local plant and will operate a grain and seed business.—H. H. H.

Cowden, Ill.—Fred Hudson, manager of the Cowden Co-op. Equity Exchange, Inc., elevator, fell from the corn sheller recently and dislocated his left shoulder. Mr. Hudson fractured the same arm while working at the elevator about a year ago.

Lotus, Ill.—The Lotus Grain & Coal Co. is rebuilding its elevator, destroyed by fire after being struck by lightning on Aug. 26. The new structure will be fire-proof, of concrete, and will stand 100 feet high. It will have seven bins with a 30,000-bu. grain storage capacity. Eikenberry Const. Co. has the contract, the elevator to be completed about Jan. 1.

Raven (Scotland p.o.), Ill.—Raymond Myers and Clarence Simpson, truck operators of Charleston, bot the Raven Elvtr. Co. elevator from its owners for an unrevealed amount of cash at the time the structure was burning. Fire recently destroyed the elevator, in which was stored 31,000 bus. of grain. About 5,000 bus. of the grain was salvaged. Simpson and Myers and several of their drivers, went to the scene of the fire and armed with buckets of water assisted in fighting the blaze.

Waterman, Ill.—Delbert Withey of F. H. Withey & Son feed mill, had a narrow escape from death recently when overcome by fumes of cyanogas, a rodent poison, while spraying an empty bin. He used no mask. In the tumble from the top to the bottom of the tank, a distance of 22 ft., his body struck a cross rod. Paul Lehman, a helper, heard him fall and volunteered to go down after him. Tying a handkerchief over his nose and mouth, with a rope he dropped to the bottom of the bin and was just able to get back to the top with the unconscious man when he, too, lapsed into unconsciousness. He was hauled out and restored by first aid treatments. A pulmotor was used to restore Mr. Withey who, in spite of his bruises, is once more back on the job.

CHICAGO NOTES

Joseph Grill, 60, was fatally injured Nov. 12 when he was crushed against a bin foundation of the Columbia Maltng Co. plant in South Chicago by a freight car in the company's switching yards where he worked.

Membership certificates on the Board of Trade recently established a new low price when announced at \$675. This represents a decline of \$25 from previous low in sales. Posted offers of certificates were at \$675, and highest bid \$625.

Fred F. Breckenridge, 67, who had been an active broker for General Mills, Inc., and formerly was connected with the cash grain firm of Nye & Jenks, died suddenly Oct. 13 at his home in River Forest. He had been a member of the Board of Trade since 1898.

R. L. Carpenter, New York Giant pitcher, and son of Louis R. Carpenter of James E. Bennett & Co. has purchased a membership in the Board of Trade. Mr. Carpenter has no definite plans at present, but it is understood he may engage in the grain business during the off-season winter months. Memberships also were purchased by Harvey S. Williams, Chicago; John D. McCaull, Minneapolis, Minn.; Andrew J. Berens, Bancroft, Ia., and Thos. Crosthwaite, Shanghai, China.

INDIANA

Cannelton, Ind.—Dutschke Milling Co. on Oct. 10 sustained a small loss from high winds.

Goodland, Ind.—The Goodland Grain Co.'s articles of incorporation have been amended.

Lyons, Ind.—The Lyons Grain Co. sustained another small windstorm loss Oct. 16.—H. H. H.

Clay City, Ind.—The R. M. Geabes mill sustained a small amount of damage from high winds on Nov. 11.

Garrett, Ind.—The Stump Grain & Coal Co. will install a new hammer mill and feed mixer, replacing a smaller grinder.—A.E.L.

Whitesville (Crawfordsville p. o.), Ind.—The Whitesville Grain & Feed Co. is a new member of the Indiana Grain Dealers Ass'n.

Chandler, Ind.—Samuel W. Perigo (65), who for the past 28 years operated a mill and feed store, died following a stroke.—W.B.C.

Churubusco, Ind.—The Churubusco Grain & Coal Co. appointed Ted Barnhart manager of their newly acquired elevator here.—A.E.L.

Tefft, Ind.—Francis Culp of Gillam Township is manager of the former Kroft elevator recently purchased by the Jasper County Farm Bureau.

Tyner, Ind.—Leo Rogers has been appointed manager of the C. G. Wolf elevator. He succeeds Clyde Miller who held the position for a number of years.—A.E.L.


Sheridan, Ind.—Hayes Hutchens (64), for many years associated with the Hortonville Elvtr. Co., died recently, due to a heart stroke.—W.B.C.

Petersburg, Ind.—The old Whitelock mill in West Petersburg is being razed. The mill was built as a grist mill in 1828, later being converted into a flour mill.

Alexandria, Ind.—The slander suit of Charles F. Naber against a thresherman concerning alleged false weights will come up for trial in the circuit court at Anderson.

Albion, Ind.—D. R. Sachett has succeeded Ralph Horine as manager of the Albion County Farm Bureau Ass'n. Mr. Horine was promoted to a position with the Indianapolis office.—A.E.L.

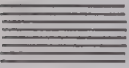
Boonville, Ind.—New electrical equipment and a hammer mill have been installed in the Boonville Elevator plant owned by Elza Kramer. Motors are of the latest totally enclosed and ball bearing design.—H. H. H.

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KANSAS CITY, MO.

Plymouth, Ind.—The entire plant of Syler & Syler has been painted in aluminum, making a very attractive appearance.—A.E.L.

Leavenworth, Ind.—The Shine Milling Co. of New Albany has purchased the Barry Milling Co. mill from Russell Barry. The equipment will be moved to the New Albany plant.

Tocsin, Ind.—The Tocsin Lumber & Grain Co., expanding its grain and hay shipping business, is building an alfalfa grinding plant. An abandoned tile mill near here was purchased and is being remodeled and equipped for the purpose.

Columbia City, Ind.—Considerable danger was created in the Nov. 11 storm when the new cob house of the Columbia City Grain Co. was demolished, pulling down the entire bank of transformers and high tension lines.—A.E.L.

Westphalia, Ind.—The O. L. Barr Grain Co. has completed construction of a one-story 45x 65-ft. frame building on the site of an old canning factory just south of its elevator. It will be used as a farm implement display room, machine shop and corn crib.

Mt. Vernon, Ind.—Following the failure of negotiations between the Mt. Vernon Milling Co. and Local No. 20716, Flour Mill Workers Union, A. F. of L. affiliate, 44 employees of the Hominy mill, members of the union, walked out Nov. 14, and the plant, picketed, was idle.

Indianapolis, Ind.—The week's post brought a birthday greeting from Bert Boyd, one of the best known of the old school of grain men, who is sojourning in Henderson, N. C., these past several years, and celebrated his 70th birthday anniversary Nov. 20. It is characteristic of Mr. Boyd that the greeting should come from rather than to him on this occasion, for his hosts of friends, old and new, live always, in his thoughts. The bits of somber philosophy contained in his dissertation of life's observations he has gleaned while journeying onward to "three score and ten" have the Boyd lilt in the choice bits of witticisms he offers. "Time Marches On" is the apt caption of the small pamphlet that arrived, in which he naively admits that "Old Man Boyd is old sho nuff." There are those of his friends who will challenge that statement, wondering—is a man with a heart so young ever old? Congratulations, and best wishes—as some of us reminisce with you!

IOWA

Perry, Ia.—The Stokely Lumber Co. is constructing a 7,000-bu. bin at its elevator, to be used for corn storage.

Charles City, Ia.—Mr. and Mrs. O. L. Jacobs have sold their hatchery and feed business to Henry Emmel of Shell Rock.

Sanborn, Ia.—Frank Hartog has purchased the elevator building which his elevator now occupies, from J. DeVries of Primghar.

Cherokee, Ia.—The Farmers Elvtr. Co. held a corn show on Nov. 11 when farmers from the community submitted samples, competing for honors.

Tabor, Ia.—Ruse Transfer & Oil Co. has completed a new elevator and feed warehouse, to be operated in connection with its transfer business.

Glidden, Ia.—A. Moorhouse & Co. are giving their elevators here, at Lanesboro and Ralston coats of aluminum paint. The T. E. Ibberson Co. is doing the work.

Mount Ayr, Ia.—K. T. Prentis, feed and hatchery man, has been re-elected state representative for Ringgold County. Mr. Prentis served his first term two years ago.

Quimby, Ia.—W. F. Tressler of St. James, Minn., is the new manager of the Farmers Co-op. Elvtr. Co. elevator, succeeding Franklyn Davis who is moving to California.

Dennison, Ia.—George Menagh, formerly in the grain business here having established the Menagh Milling Co. many years ago, which now is known as the Dowd Milling Co., died Nov. 12 at his home in Delano, Cal.

Holstein, Ia.—The Farmers Elvtr. Co. recently installed a new feed grinder and mixer. The elevator was given new metal siding and roof.

Wallingford, Ia.—The Farmers Elvtr. Co. has completed extensive repairs on its elevator, work being done by the T. E. Ibberson Co. A Strong-Scott Dump and new drives were installed.

Indianola, Ia.—E. H. Felton, grain man and feed manufacturer, has been elected state representative for Warren County on the Republican ticket. He was at one time a member of the state board of control.

Onawa, Ia.—An order approving the content of a petition in a proceeding for reorganizing the Northwestern Milling Co., was signed by Federal Judge George C. Scott. Creditors opposed to the proposed reorganization plan will be heard in federal court Dec. 16.

Earlville, Ia.—Prowlers entered the Sill Feed Store recently, wrecked a candy bar vending machine, took a small amount of money and did considerable damage to the records and files kept in the office. A rear window had been forced with a crow bar to gain entrance.

Council Bluffs, Ia.—James Elias of the Elias Coal & Grain Co., Minden, has purchased the coal business of the Droge Elvtr. Co. He will continue the business in the same location under the name of Elias Coal & Feed Co. Mrs. Louise Hough has charge of the office.

Des Moines, Ia.—Western Grain & Feed Ass'n is urging renewed efforts on the part of its members in the "100 new members by convention time" drive launched recently. Many have already earned several points in their campaign, but others are urged to get busy doing their bit. Cash prizes will be awarded those with the largest number of points to their credit at the convention held at Hotel Fort Des Moines Dec. 3, 4 and 5.—Harold E. Theile, sec'y.

Cherokee, Ia.—Burglars who broke into the Allison Grain & Coal Co. office the night of Nov. 16 failed in attempts to crack open one safe and haul another away. The break-in was discovered the following morning. Nothing was missing from the office. Entry was made thru a window.

Eldora, Ia.—R. H. Johns has filed a petition against E. F. Froning, et al., averring he had no knowledge of the alleged sale of the interests of the Eldora Grain Co., to Froning, then living in Liscomb, by other stockholders of the company, until days afterward, and he desires the court to protect his interests as stockholder and as sec'y-treas. of the company against other members of the company and against Froning in his position now as owner of the business.

Davenport, Ia.—The new 500,000-bu. grain elevator under construction here for the International Milling Co., is near completion. The company recently requested approval of revised plans to build railroad tracks, a train shed and a grain pit on the government interceptor sewer at the Gold Rim Mill. The original plans for which a permit was issued on Nov. 14, 1934, showed railroad tracks to be laid on the back fill over the interceptor sewer and a train shed over the tracks. The work as originally authorized has not been completed. Army engineers set Nov. 13 as the hearing date for the application.

KANSAS

Alameda, Kan.—The Consolidated Flour Mills Co. reported a small amount of damage done to its elevator by high winds Nov. 10.

Holyrood, Kan.—A proposal to erect a 75,000-bu. elevator has been proposed to stockholders of the Holyrood Co-op. Grain & Supply Co.

Wellington, Kan.—Thieves forced an entrance to the Farmers Elevator recently, carrying away 200 lbs. of cotton seed meal, some wheat, oats and dog food.

Le Loup, Kan.—The Star Grain & Lumber Co. elevator has been opened with Jack Jewell in charge. The elevator will handle corn, kafir, oats and wheat.

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CHICAGO, ILL.

Atchison, Kan.—The Blair Elvtr. Corp. recently held a feed school here that was attended by many feed dealers. The company expects to make this an annual affair.

Kingman, Kan.—Charles Colby, engaged in the grain business in Hutchinson for 25 years and president of the Hutchinson Board of Trade, has moved here where he is operating a filling station.

Winfield, Kan.—John C. Daves, manager of the Daves & Daves Grain Co., died suddenly following a heart attack Nov. 8. Mr. Daves took a prominent part in grain trade activities in south central Kansas.

Galva, Kan.—A. L. Flook, owner and manager of the A. L. Flook Grain Co., died Nov. 12 of a heart attack, brought on by overexertion while changing a tire on his auto. He had been in the grain business for a number of years.

Kiowa, Kan.—The OK Co-operative Grain Co. awarded contract for construction of a 100,000-bu. storage elevator to A. F. Roberts. The new elevator, to be located north and adjacent to the company's present elevator, will be of reinforced concrete and 144 ft. high. A modern truck scale will be installed. Alice Luty is manager of the elevator.

Smith Center, Kan.—Walter G. Henrichs of Athol has been named manager of the Smith Center Co-op. Mill & Elvtr. elevator, succeeding John Campbell who has been acting temporarily in that capacity since the resignation of Frank Johnson. Mr. Henrichs will take over the duties Dec. 1. He has been manager of the Farmers Co-op. Elevator in Athol.

Courtland, Kan.—The Bossemeyer Elevator is operating under the new ownership of Eberhardt-Simpson, of Salina, with Gilbert Yerian as manager. Mr. Yerian has been manager of the Bossemeyer Elevator for some time. He will be assisted by his father, Fred Yerian, for many years manager of the elevator. The new firm will be known as the Courtland Grain & Feed Co. It will handle grain and feeds.

KENTUCKY

Falmouth, Ky.—Corlis Hodge recently purchased the Sunrise Roller Mills, which he will operate.

Nolin, Ky.—The Nolin Milling Co. has constructed a 36x120-ft. warehouse and added some new equipment at its plant.

Hawesville, Ky.—Ivory Glover is now sole owner of the Hawesville Milling Co., having purchased the interest of his partner, Claude Davies, in the business.

Mayfield, Ky.—The Mayfield Milling Co., Inc., has completed a grain elevator, 50,000 bus. storage capacity, increasing to 100,000 bus. the company's total capacity. The elevator is equipped with modern, fast handling machinery, including cleaners, separator and scale.

Bowling Green, Ky.—The American National Bank bot the Bowling Green Mill, fixtures and equipment for \$15,000 at auction recently. The mill went into bankruptcy following a strike of a number of the employees, over wages and hours. Disposition of the approximately 60,000 bus. of wheat at the mill will be made later.

MICHIGAN

Olivet, Mich.—The Farmers Elevator was damaged by fire the night of Nov. 2.

Alma, Mich.—A truck loaded with wheat broke thru the scale platform at the Michigan Bean Co. plant recently.

Dowagiac, Mich.—A decree for the dissolution of the Colby Milling Co. recently was issued by Circuit Judge Glenn E. Warner.

Shepherd, Mich.—Ivan Franz, manager of the Leslie Grain & Produce Co. for the last five years, has been transferred to the Shepherd Grange & Bean Elevator.

Leslie, Mich.—Edward Stiles has succeeded Ivan Franz as manager of the Leslie Grain & Produce Co. Denzel Parker is also a new employee at the local elevator.

Sturgis, Mich.—Sneak thieves recently rifled the penny gum machine at the Sturgis Grain Co. elevator after breaking into the elevator office. Waldo DeBolt, manager, reported nothing of value missing.

Many Michigan elevators reported damages incurred at their plants during November, the results of high winds. Among those reporting losses sustained, the majority of which were small, were the Cutler-Dickerson Co., Adrian;

Independent Elvtr. Co., Ashley; Alfred Chickering (Chickering Elvtrs.), Belding; Ezra J. Monette, Brunswick; John Schmidt, Dundee; Elkton Co-op. Farm Produce Co., Elkton; Flushing Flour Mills, Flushing; Orla B. Hall, Fowler; Merrill & Birch Run, Freeland; Cutler-Dickerson Co., Hudson; Jonathan Hale & Sons, Ionia; McLaughlin-Ward & Co., Jackson; Lake Odessa Co-op. Ass'n, Lake Odessa; J. T. Bird, Millett (Lansing R. R. 1); Westing & Swanson, Inc., New Era; Ovid Roller Mills, Ovid; Co-op. Elvtr. & Milling Ass'n, Pigeon; Rockford Co-op. Co., Rockford; Michigan Bean Co., Silverwood; Snover Grain Co., Snover; Stanton Elvtr. Co., Stanton; Tustin Elvtr. & Lumber Co., Tustin; Michigan Bean Co., Vestaburg; White Cloud Co-op. Ass'n, White Cloud. Considerable damage was incurred at the White Cloud Co-op. Ass'n plant.

MINNESOTA

Bemidji, Minn.—Tim's Feed Store has opened a new flour and feed warehouse.

Austin, Minn.—E. T. Tollefson and Ed DeVriendt have opened a grain and feed store.

Dawson, Minn.—The Farmers Co-op. Elevator has opened its new feed mill at the Eagle Elevator.

Wheaton, Minn.—Martin Hanson, 65, who had been in the elevator and grain business here and at Dumont for the past 21 years, died Nov. 10.

Minneapolis, Minn.—The Grain Cereal Products Co. has been organized; to market a new type of wheat germ in different varieties, flaked, granules and flour. M. H. Sargent is general manager. Partners with him in the business are A. M. Baker and C. M. Smith.

Henderson, Minn.—Peavey Elevators recently installed a new 26-ft., 20-ton scale and Strong-Scott Air Dump. A new driveway was provided and new legs, head drives and a corn sheller installed in the elevator. An office, also, was built. The T. E. Ibberson Co. had the contract.

High winds in Minnesota damaged property of the following firms recently: Rippe Grain & Milling Co., Fairmount; Granada Farmers Elvtr. Co., Granada (damage heavy); New Ulm Roller Mill Co., Hanska; Holloway Market Co., Holloway; New Ulm Roller Mill Co., New Ulm; Hubbard & Palmer Co., Truman; Waubun Elvtr. Co., Waubun.

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Kasson, Minn.—Fire started from an overheated gas heater in the office of the Kasson Grain Co. early Nov. 11 was extinguished with little damage resulting.

Kenyon, Minn.—The M. T. Gunderson elevator is being remodeled and fitted with up-to-date machinery, the improvements being made by the Farmers Mercantile & Elevtr. Co. as an expansion to its business.

Maple Lake, Minn.—The Atlantic Elevtr. Co. recently completed construction of a feed mill building adjacent to its elevator. The mill is fitted with a Strong-Scott 1½-ton feed mixer, attrition mill with two 25-h.p. motors, a modern corn cracker and grader, a cob crusher with a 25-h.p. motor and corn shelling equipment with special drag feeders. The interior of the mill, the new warehouse and elevator were painted with white enamel. The T. E. Ibberson Co. had the contract.

MISSOURI

Sedalia, Mo.—An overheated flue caused a small fire in the Producers Produce Co. plant on Nov. 13.

Kansas City, Mo.—The new board of directors for the reorganized Flour Mills of America Co. has been named and submitted to the federal court for approval. The board consists of George S. Carkener, Thornton Cooke, Ralph W. Hoffman, Milton McGreevy, Arthur L. Mullergren, Edgar Shook and Fred C. Vincent, all of Kansas City.

St. Louis, Mo.—The Fox Grain Co., which operates the Central elevator, a 750,000-bu. house, will cease operations following the liquidation of its assets. Disposition of the elevator which was acquired about a year ago, will be announced later. The action is taken as a result of the loss of the company's European markets by the war.

Kansas City, Mo.—Continental Baking Co. purchased the local properties of Rosedale Milling Co., Nov. 19 for use in the manufacture of its whole wheat flour, which previously it has manufactured in its smaller plant here and purchased from other sources. The Rosedale mill will be remodeled and buhr mills installed. The plant has a storage capacity of 30,000 bus. of wheat.

St. Louis, Mo.—The Ralston-Purina Co. recently announced a pension and retirement plan for employees. Employees who have been with the company twenty or more years will receive, upon retirement, payments from the company to supplement social security. This will raise the pension to a minimum of \$50 monthly. Retirement ages have been set at 60 for field men and 65 for office workers.

Pleasant Hill, Mo.—The Moundridge Mill recently installed a 60-h.p. motor, replacing the 50-h.p. unit which burned out.

Springfield, Mo.—Lowell Claxton, formerly associated with the M. F. A. Milling Co. at Lebanon, has accepted the position as night superintendent for the company here.

MONTANA

St. Ignatius, Mont.—L. E. Sanders has reopened the Mission Mill owned by the Jesuit Fathers.

Hinsdale, Mont.—The Hinsdale Elevtr. Co. has certified that it is a partnership business, members being Martin Swanson, James C. Beil, Alex H. Mogan and R. E. Hillman, all of Hinsdale.

Shelby, Mont.—A million bushel grain storage elevator may be erected here soon by the Farmers Union Grain Terminal Ass'n of St. Paul, Minn. Option on a 7-acre tract of land east of the city at the railroad wye was granted the ass'n by the city council following a visit here by D. L. O'Connor, ass'n president.

NEBRASKA

Madrid, Neb.—The Conley-Ross Grain Co. recently installed a new and larger scale at its elevator.

Hastings, Neb.—The Hastings Mill sustained a negligible loss recently when drive belt friction started a small fire.

Harbine, Neb.—Thieves who visited the Farmers Elevator some time the night of Nov. 12 stole an adding machine and a check writer. When Dick Ammen, manager, arrived the following morning he found the door of the elevator unlocked and open.

Humphrey, Neb.—The Farmers Co-operative Grain & Lumber Co. and the Farmers Union Oil Ass'n celebrated the opening of their new office Nov. 21. A program starting early in the day continued thru the evening, the public was invited to participate in the celebration.

Omaha, Neb.—At the annual election Nov. 13 of the Omaha Grain Exchange, the following were re-elected for three year terms to the board of directors of the Exchange: W. T. Burns; J. H. Weaver and J. H. Wright. The board of directors met Nov. 19 and elected officers for the coming year. R. E. Miller, vice-president of the Uptide Grain Corp., was named president; R. M. Scouler of the Scouler-Bishop Grain Co., and A. R. McKinley, Omaha Elevtr. Co., vice-presidents; F. C. Bell, treasurer. F. P. Manchester will continue as sec'y, an office he has held for the last 31 years.

NEW YORK

Malone, N. Y.—Grange League Federation is planning a 40-ft. addition to its plant.

New York, N. Y.—Transatlantic Grain & Seed Corp. has been organized; to deal in grain, flour, feed, hominy; 100 shares, n.p.v.

Central Islip, N. Y.—Spontaneous combustion in alfalfa hay caused a damage loss on Nov. 4 to the Central Islip Co-operative G. L. F. Service, Inc.

McLean, N. Y.—The Jones Feed Mill has opened a branch store in the building formerly occupied by the Seeley Feed Co. Roy Bell, Jr., of Homer, is manager.

New York, N. Y.—R. F. Cunningham & Co. has been organized, to conduct a business in grain, grain products and feeding materials. The firm is a division of States Grain Corp.

New York, N. Y.—Any applicant, not already a member of the New York Produce Exchange, may now be elected to membership for an initiation fee of \$50, according to the new ruling made thru the balloting of the membership on Nov. 6.

NORTH DAKOTA

Loma, N. D.—A 25,000-bu. 6-bin annex was built recently for the Peavey Elevators by the T. E. Ibberson Co.

Hoving (Gwinner p. o.), N. D.—Fire destroyed the Hoving Grain Co. elevator of which Felix Gallagher is manager.

Rugby, N. D.—The Farmers Union Co-op. Elevtr. Co. will dedicate its elevator at a country-wide program given the evening of Dec. 6 in the Memorial Building.

Addison, N. D.—The new 25,000-bu. elevator annex for Cargill, Inc., has been completed by the T. E. Ibberson Co. It is fitted with a leg and a Richardson Automatic Scale.

Gladstone, N. D.—Thieves broke into the Farmers Union elevator the night of Oct. 29 and escaped with \$28 in cash. The dial on the safe was smashed, damage incurred amounting to about \$75.

Valley City, N. D.—Paul Thompson, manager of the Occident Elevator in Valley City, has resigned, effective Dec. 1, and has accepted a position as manager of the West Fargo elevator of the Interstate Seed & Grain Co.

Kenaston, N. D.—Peavey Elevators have widened their driveway, put in a new foundation under the local elevator, installed a new large size boot tank and 20-ton, 26x9-ft. platform Fairbanks Scale; remodeled the elevator office and overhauled the elevator. The T. E. Ibberson Co. did the work.

Landa, N. D.—The International Elevtr. Co. has completed the remodeling of its elevator No. 1, removal of a second elevator up to the main plant, installation of a new head drive, steel pan, new buckets and belt and new spouting; construction of a 30,000-bu. annex in conjunction with elevator No. 2. A 14-ft. driveway was built around the 26x9-ft. 20-ton dump scale. The T. E. Ibberson Co. did the work.

Walhalla, N. D.—The new 60,000-bu. elevator built by the International Elevtr. Co. has been put into operation. There are 21 bins and two legs, fitted with a Gerber Double Distributor. On the workfloor there is a special barley processing machine and a large size cleaner. The whole structure is covered with galvanized iron and the plant is supported on a slab type foundation. Enclosed-type electrical motors were used thruout. A 26-ft. 20-ton receiving scale is installed in the driveway, fitted with Strong-Scott Air Dumps. The company's new feed mill is attached to and works in connection with the new elevator. A one-ton horizontal mixer was put in the mill as additional equipment. A large warehouse and office are other buildings provided. The T. E. Ibberson Co. had the contract.

OHIO

Lancaster, O.—Look out for more crazy regulations from the powers "that be."—Graham Milling Co.

Toledo, O.—Kent Keilholtz of the Southworth Grain Co., is spending a few weeks in California.

Monroeville, O.—The Seaman McLean Co. recently repaired its scale, constructing new foundation beams and platform.

Toledo, O.—Kasco Mills, Inc., have added to their sales force Messrs. Jerrold Haddix and James Walters. Mr. Haddix will represent the company in the Western Pennsylvania territory.

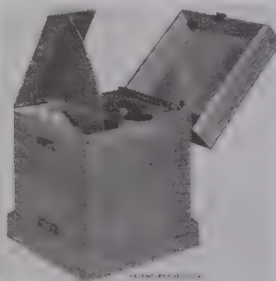
Geneva, O.—The Lake Erie Milling Co. has been named in a suit for \$200.05 filed by Daniel Walz, claiming that a truck owned by the defendant while engaged in delivering grain to the plaintiff's farm backed into a granary, damaging the building.

Clyde, O.—Fire believed to have started by spontaneous combustion destroyed the Irvin T. Fangbner Co. elevator the night of Nov. 19. George Willer, manager, stated it contained 5,000 bus. of wheat, corn, rye and barley. Loss is estimated at \$25,000.

High winds which swept thru Ohio on Nov. 11 caused damage to many elevators and mills thruout the state. Heavy loss was incurred at Bryan by the Bryan Transfer Elevtr.; small losses were reported by George A. Daft & Son, Baltimore; Bloomingburg Grain Co., Bloomingburg; Bryan Transfer Elevtr., Bryan; Convoy Equity Exchange Co., Convoy; Lakeview Elevtr. Co., Lakeview; Latham & Nau Co., Inc., Plain City; Swanders Farmers Elevtr. Co., Swanders (Ink p. o.); Wakeman Milling & Elevtr. Co., Wakeman.

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Established 1824

Garrettsville, O.—Businessmen of the community are aiding in the work of restoring the Vanderslice Milling Co. grain mill which was destroyed by fire Oct. 31. The mill was more than 100 years old.

Patterson, O.—G. S. Threlkeld of Jeffersonville, and his brother, Kirby Threlkeld, of Lakeview, have purchased the Patterson Grain Co. elevator. G. S. Threlkeld, who for years was a member of the grain firm of Threlkeld & Blessing of Jeffersonville, is in charge of the local business.

Greenville, O.—E. W. Loy, who has been in the grain and feed business here for the last 20 years, operating as the Greenville Farmers Exchange, has sold his interest in the business to Jesse A. Stemen of Convoy, O., and the latter's son, Gaylord, of Van Wert. The new owners will continue to operate as the Greenville Farmers Exchange. Mr. Loy has not made any definite business plans for the future.

Tremont City, O.—R. E. Crone, manager of the Osborn Co-operative Grain Co. at Osborn, O., has leased the Halleck Grain Co. elevator for five years with an option to purchase at the expiration of that period. Arthur Hallock is owner of the property. Han Lewis, an employee of the Osborn Co-operative Grain Co., is in charge of the local elevator which will be operated under the name of the Tremont Exchange.

Chickasaw, O.—The Chickasaw Milling Co. will replace its plant, recently destroyed by fire, with a frame, metal clad structure, 48x56 ft., 70 ft. high, bins and cupola, with 8,000 bus. storage capacity and 2,500 bus. ear corn storage capacity. There will be two legs, one equipped with 14x7-inch, the other with 8x5-inch high speed buckets. Other installations will include a No. 5 S. Howes Cleaner with Buhler Drive; Western Gyration Corn Cleaner; 50-h.p. Jacobson Hammer Mill Texrope Drive; Western Corn Sheller; ½-ton Keller Mixer; 1½-ton vertical mixer; each machine driven by individual motor, and a Fairbanks 20-ton 34x9-ft. Platform Scale. It is expected to be ready for occupancy about Jan. 1. Ivo J. Grieshop is manager.

OKLAHOMA

Miami, Okla.—The Stauffer Grain Co. has sold its local jobbing and mixed feed plant to H. W. Giessing who has taken over operation of the business. No change in the name of the local business will be made. Paul K. Stauffer, who started the plant here three years ago, will take over active management of the Stauffer-Cammack Grain Co. plants at Columbus and Baxter Springs, Kan., making his home in the latter place.

Holdenville, Okla.—Floyd Majors has opened Majors' Mill, a stock feed and custom grinding manufacturing plant. He plans to add meal mill machinery soon to the equipment already installed in the recently constructed building. He is assisted in his new enterprise by Kenneth Sullivan. Mr. Majors is a former leader in Hughes County 4-H work and had been employed by the Holdenville Mill & Elvtr. Co. for eight years.

PACIFIC NORTHWEST

Hillsboro, Ore.—A new grain firm has been organized, to be known as Valley Feed Co.

Opportunity, Wash.—R. W. Straight has sold his feed store and buildings to Verne Asbury, who will continue the business.

Prosser, Wash.—P. J. Taggares recently installed a new feed grinder in his warehouse and will specialize in custom grinding.

Glenwood, Wash.—H. F. Kuhnhausen has completed installation of a modern feed grinding mill and is specializing in custom grinding.

Cle Elum, Wash.—A city annual license fee of \$10 proposed to be charged feed and chop mills was slated to come up for final passage on Nov. 25.

Benge, Wash.—We built an additional 80,000-bu. elevator making our bulk capacity now 100,000 bus. We also have a 100,000-bu. warehouse for sacked grain.—Benge Elvtr. Co.

Portland, Ore.—Cornelius B. Leary, agent of the sec'y of agriculture, associated with the Surplus Commodities Corp. and connected with the flour and wheat subsidy program, died suddenly Nov. 18 in St. Vincent's Hospital. About a month ago he suffered a heart attack but had recovered sufficiently to leave the hospital. Death followed a second attack.

North Plains, Ore.—We have installed a Super 109-D Mill, built four grain bins with 50 tons capacity each, and contemplate building two more next season.—C. C. DeFrees, Smith & DeFrees Feed Co.

Redmond, Ore.—W. F. "Jack" Hardison, operator of the Hardison Feed Co., was elected mayor of the city at the November election. Mr. Hardison is on the board of directors of the Oregon Feed Dealers Ass'n.

Prineville, Ore.—W. B. Morse, operator of the Prineville Whse. Co., was elected state representative from Crook and Jefferson Counties at the November election, receiving the majority of votes in a race of three. Mr. Morse is a member of the Oregon Feed Dealers Ass'n.

Almota, Wash.—The Almota Farmers Elvtr. & Whs. Co. is considering building an annex in the next year or so. The company built a 126,000-bu. elevator this past season, equipping it with modern, fast handling machinery. It did a fine business this season.—R. H. McKenzie.

Spokane, Wash.—Spokane Grain Merchants Ass'n recently named the following new officials: Walter Mitchell, manager of the Continental Grain Co., president; L. A. Rumberg, vice pres.; Theodore H. Hibbitt, Fletcher Chamberlain and Ray Lindstrom, new directors. A sec'y-treasurer will be selected when the board meets.

PENNSYLVANIA

Albion, Pa.—The J. W. Johnson & Son feed mill was damaged by high winds on Nov. 11. The loss was small.

Freeport, Pa.—The Smith & Zahniser feed store has been sold to R. A. Westerman, feed dealer of the Sarver area, who will operate both the local and Sarver stores.

Gordonville (R. R. 1), Pa.—The Oscola Flour Mills has registered as a firm, manufacturing flour and selling grains and feeds. Organizers, Willis D. Frankhouser, Earl Township, and Paul Hicks, Paradise Township.

Columbus, Pa.—The Meyerink Milling Co.'s new plant, built on the site of the one that burned in December, 1939, was opened for business early this month. Peter Christensen, manager of the burned mill, is in charge of the business.

SOUTH DAKOTA

Viborg, S. D.—The Viborg Co-op. Elvtr. Ass'n, which completed construction of a large annex in which mill equipment has been installed, is prepared to do all kinds of grinding. The elevator, which formerly was owned by the Farmers Co-operative Elvtr. Co., was purchased by the Viborg Co-op. Elvtr. Ass'n last spring, and now

is operated under the management of Otto Schlotfeldt with Carl Lauritzen as assistant.

Brookings, S. D.—Minnesota and South Dakota grainmen held their regular monthly meeting here Nov. 19 with George P. Sexauer & Co. as hosts.

Dempster, S. D.—A. A. Loats, 80, a resident of Dempster for 38 years, died at his home Nov. 18 following a long illness. For 24 years he was manager of the Farmers Elevator.

Colman, S. D.—The Farmers Co-operative Elevator was destroyed by fire Nov. 17 together with its contents, an unestimated amount of grain and government stored corn. J. M. Oyan is the manager.

Scotland, S. D.—The feed mill recently completed for Scotland Community Elvtr. Co. by the T. E. Ibberson Co. is equipped with an attrition mill having two 25-h.p. motors and blower, and a Strong-Scott one-ton Mixer. There are two legs and 12 bins. Ibberson Co. special bulk bin fittings were used and power is furnished by drive heads and individual motors. The company's old office was remodeled and a new warehouse built adjacent to the mill building. Coal sheds also were erected. All buildings were covered with galvanized iron. A separate driveway has been provided for the mill.

SOUTHEAST

Stuart, Va.—The mill owned by J. H. DeHart was totally destroyed by fire of unknown origin early Nov. 10.

Dothan, Ala.—The Dothan Milling Co. will build an elevator to increase its storage capacity and improve its facilities. New equipment also is being installed.

WISCONSIN

Merrill, Wis.—The Lincoln Mill has been made an approved custom mixing station.

Grantsburg, Wis.—Al Burns has moved his feed store to the warehouse east of the depot, which has been remodeled.

Milwaukee, Wis.—Receipts of soybeans during October, 1940, were 77,550 bus.—Milwaukee Grain & Stock Exchange, H. A. Plumb, sec'y.

Manawa, Wis.—The Farmers Co-op. Produce Co. has installed a No. 6 "T" Kelly Duplex Ear Corn Crusher & Feeder with motor drive.

Arcadia, Wis.—Daniel Walski of Centerville has purchased the East Arcadia Feed Mill from Peter Kronschnabl of Milwaukee, which he plans to operate.

Milwaukee, Wis.—E. J. Koppelkam of E. J. Koppelkam Co., a member of the Milwaukee Grain & Stock Exchange, died at his home Nov. 23 after a brief illness.

[Concluded on page 461]

Why —
we can make this
Sensational
offer!

THE **Nu-Hy**
GRAIN BUCKET

Trade Mark Reg. U. S. Pat. Off.

The secret behind the success of the "NU-HY" Bucket is its unique design and flexibility.

By continuous spacing we have increased capacities as much as 100%.

No other bucket possesses the features of the "NU-HY." Hence, no other bucket can give you the same results.

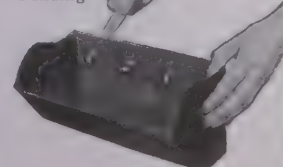
Guarantee

"NU-HY" Grain Buckets are definitely guaranteed to increase the capacity of your bucket elevator from 10% to 50% by simply replacing your present buckets. No other changes are necessary.

"NU-HY" Buckets are a definite means for you to obtain the leg capacity you want, so why not take advantage of our offer?

Write today for engineering and price bulletin, also ask for our Capacity Analysis form No. 76 to enable us to submit guaranteed recommendations. No obligation.

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SCREW CONVEYORS

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U. S. PAT. OFFICE

Supply Trade

Columbus, O.—The Exact Weight Scale Co. has just issued an attractive broadside descriptive of its complete line. A copy will be sent Journal readers who write the company.

Kansas City, Mo.—The Cook Chemical Co. has recently been organized by Oscar T. Cook, grain buyer, H. A. Fowler, grain broker and elevator owner and others. The company will distribute insecticides for the killing of insects in grain.

Chicago, Ill.—Phil Grotevant, for the past several years with Sutton, Steele & Steele, has again become associated with the S. Howes Co. His territory will include northern Illinois, northern Indiana, Michigan and Wisconsin. C. L. BeVier formerly of the Chicago office will cover southern Illinois, southern Indiana and adjacent territory, with headquarters in Charlestown, Ind.

Henry Simon, Limited, did not let the war interfere with the issuance of its calendar which has become "standard equipment" in grain and milling offices thruout the world. 1941 marks the jubilee of this calendar. It was first issued 50 years ago and the mottoes were chosen and arranged by Henry Simon, founder of the company, and his wife Emily Simon. Since 1916 their eldest daughter, Lady Hamilton, has carried on the work.

Washington, D. C.—A group of wholesalers called together by the national defense advisory commission Nov. 12 heard warnings of rising prices and future shortages of goods because of the rearmament program. Many wholesalers expressed the opinion, also, that defense preparations will be hampered and prices will rise regardless of efforts to keep them down if the government insists upon maintaining the 40 hour maximum work week.

Muncie, Pa.—J. A. Krimm, sales manager of the Robinson Mfg. Co., announces that another service and sales office in the East in charge of R. V. Schneider will be located in Room 1247 Commercial Trust Building, Philadelphia. Mr. Schneider is a graduate of Pennsylvania State College in mechanical engineering and has, for a number of years, been engaged in the company's engineering department. He is well versed in the operation and installation of the Robinson line of feed mill and grain handling equipment.

The Granular Moisture Register

The new Granular Moisture Register is a self-contained, portable unit requiring no outside power or accessory equipment. It is contained in a welded sheet steel case 7 ins. wide by 11 ins. high and 11 ins. deep, weighing 40 lbs.

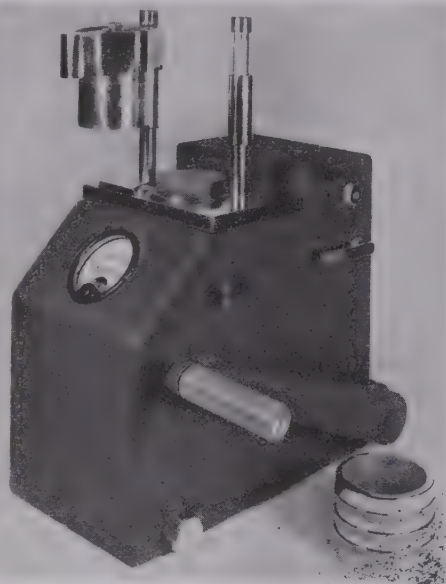
An hydraulic cylinder, pump and oil storage reservoir are of extremely heavy construction to provide the requisite strength. Valves control the hydraulic system by suitable relief and operation. The hydraulic plunger is chrome-plated to insure leak-free service.

A moisture sensitive electric system is attached to the electrode which forms the hot-

of entrained air. The compression brings the sample to a uniform density, after which a switch operation completes the battery connection and gives an immediate reading on the meter. A moisture test of a meal will give the same reading whether ground fine or coarse. Error due to calculations from charts is eliminated.

These registers are now successfully operating on such materials as wheat, tempered wheat, flour, fish meal, vegetable meals, pigments, sugar, coffee, dried foods, molding sands, starches, nitrocellulose and industrial chemicals. The instrument can be set up to a point where actual water is squeezed from sample.

Additional information will be supplied readers of the Journals on application to the manufacturers, the Moisture Register Co.



A New Moisture Tester

tom of the sample cup. Low cost batteries giving at least one year of service operate the electric system thru silver contact switches.

The meter dial reads in direct moisture percentages, or with an arbitrary numerical scale from which the user determines calibrations.

The measurement is accomplished by metering the losses of high-frequency energy in sample material, which losses are due to the natural properties of the material and vary with the moisture content. In this respect it is quite different from the conductivity, resistance or capacity type meters on the market.

The material to be tested is loaded into a cup at top of the instrument, the crank lever is operated by hand to create hydraulic pressure that compresses the sample and frees it

Food Storage Lockers as a Sideline

Among the new side lines that have found acceptance by grain dealers in some parts of the middle west is refrigerated food storage lockers. These fit in well with elevators that handle ice and coal as a part of their service.

The refrigerated locker plant industry is still small, but it is growing rapidly both as a side line to other business, and as an independent business. The names of more than 2,600 locker plants are recorded on the lists of locker plant equipment manufacturers, who expect another 1,500 new plants to be built in 1941.

Refrigerated food storage locker plants are essentially ice houses, or ice manufacturing plants, where the temperature in a locker room can be maintained below freezing. It is the temperature in the locker room, not in the lockers themselves, that keeps the stored food fresh. The individual lockers have no cooling units, but they are ventilated to permit rapid circulation of the temperature in the room around them.

Locker plants are well insulated buildings fitted with freezing machinery for maintaining refrigerator temperatures in large rooms where-in lockers are set in tiers, usually about 5 lockers high, in much the same fashion as filing cases are arranged in a file room. Lockers are made of sheet steel, formed over an angle iron frame, and fitted with a door at the front, or with a sliding drawer. The bottom lockers in a locker bank, usually are of the drawer type, to minimize stooping and bending to get at the contents.

The standard individual locker size is 20 inches wide, 30 inches deep, and 15 inches high. This size will hold about 300 lbs. of meat or other products of comparable volume per lb. of weight. Such a locker earns from \$7 to \$12 per year in rent.

Lockers are made both larger and smaller than the standard size described and earn rent on the basis of the amount of storage space they provide. The lockers are designed so they can be kept clean easily, and ventilation is provided with louvers in the doors, or drawer fronts, and with large perforations in the sheet steel of the sides and back.

Locker storage plants, whether separately operated establishments, conducted on a large scale, or as few as a hundred lockers in a back room or basement, consists of a series of rooms thru which food passes for storage. Minimum facilities include a cooler maintained at a temperature just above freezing, a cutting room at normal temperature, a sharp freeze room held at zero or lower, and a locker storage room where the temperature is never permitted to rise above 15 degrees F.

This general plan for a locker storage plant is followed by most manufacturers of equipment. All-Steel-Equip Co. offers an advantage in its recently developed "unit locker" which consists of individual lockers, so fitted with lugs that one will stack right on top of another and the banks of lockers can be built up a few at a time as needed. This type of locker,



Food Storage Lockers

readily set up, even by inexperienced labor, keeps investment and installation costs low.

Locker plants usually become an individual division of a business, their employees, aside from bookkeepers, devoting all of their attention to the locker plant business. Income is from the rental of lockers, and from the service charges that may grow out of the desires of customers for special services like blanching of vegetables, packing of vegetables and fruits, cutting and trimming of meats.

A New Diesel Engine

The economy of diesel engines in the large sizes was proved many years ago; and among those engineers striving to design a small diesel engine that would approach the larger units in low cost of power was the Witte Engine Works. In 1923 they started testing diesels as small as 3 h.p., and in 1935 introduced their first diesel engine specifically designed for the small power user.

They are now made in sizes 4 to 40 horsepower, and in diesel-electric plants, from 3 to 30 KVA.

The economy of this type of diesel engine is due to the combustion system, which consists of two separate chambers. A—the main chamber, being the space between the top of the piston and the cylinder head proper. B—the pre-combustion chamber, between the main combustion chamber and the fuel injector. During the compression stroke, compressed air is forced into the pre-combustion chamber at high pressure and temperature. Near the end of this stroke, fuel injection begins entering the pre-combustion chamber and igniting, causing a very rapid rise in temperature and pressure inside this chamber. The partially burning gases and remaining unburned fuel are discharged at high velocity through the venturi-shaped opening into the main combustion chamber, which striking the top of the piston near one side and at an angle of 30° from the horizontal spreads out in a fan-shape over the entire main combustion chamber, resulting in a very thorough mixing of the remaining unburned fuel with the hot combustion and maximum power with a minimum of detonation.

The crankcase is well ventilated with forced feed lubrication to cam and crankshaft bearings and forced floor lubrication to gears. Oil bath air cleaners, fuel and oil filters are regular equipment. Flywheel, clutch, 30 KVA generator or marine gears may be attached to either end of the four cylinder engine so they may be installed in matched right and left units.

It is of enbloc construction with replaceable wet type cylinder liners. The drop forged crankshaft is well balanced with liberal main bearing area. Main bearings are heavy duty babbit lined steel shells. Spiral gear driven accessory shaft is mounted on roller bearings, and all heavily stressed parts are of alloy steel. Pierce governor assures close governing, while built-in gear driven water circulating pump, thermostatic jacket water control and water

cooled exhaust manifold guarantees ample cooling by radiator, tank, tower or marine pump.

The cylinder head contains the combustion chamber, intake and exhaust valves and the fuel injection nozzle. Long life is assured by the use of silchrome steel valves, valve seat inserts and replaceable valve guides. The cylinder head being light and of simple form, valve servicing and inspection of the piston is thus greatly facilitated. Pistons are of sufficient length and carry four compression rings and one oil ring. The rings are well spaced below the piston crown, thus preventing seizing of the upper rings from excess heat.

Copperspun Rotor — A New Major Electrical Development

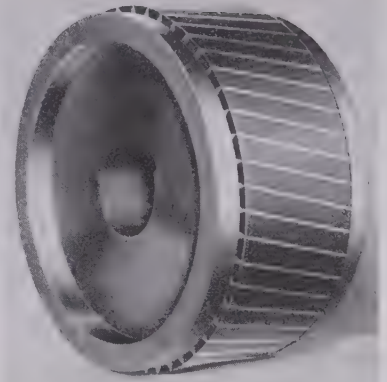
After years of research and experiment, Fairbanks, Morse & Co. have announced a new one-piece centrifugally cast Copperspun Rotor. Since the invention of the polyphase squirrel-cage motor, many different types of rotor construction have been developed in the attempt to produce a more perfect winding, and the demand in recent years for new and more difficult applications of squirrel-cage motors has emphasized the necessity of a rotor with greater mechanical strength and the ability to withstand higher temperatures.

Although so-called one-piece rotors are used by manufacturers today, only such materials as aluminum, zinc and white-alloy metals have been employed. Copper is obviously the best material available for a rotor winding, but until Fairbanks-Morse engineers worked out a manufacturing method of casting copper en bloc this most desirable material had not been successfully used.

The new Fairbanks-Morse rotor winding is manufactured of pure copper. The rotor bars and end rings are formed in one piece by pouring molten copper into a mold that encases the punched laminations, stacked and held under pressure. Copper is poured from one end only as the entire assembly is spun at high speed. The opposite end ring is formed by material that has passed through the rotor slots insuring a fluid material during the casting process. As a result of the centrifugal force, a tough, dense, ductile copper winding is produced with high strength, full slots and uniform structure and conductivity.

After completion of the centrifugal casting of the one-piece copper winding, the rotor is machine finished over all surfaces. This gives a true running rotor. Specially designed fans have also been developed for this new rotor. One-piece steel fans are welded to the rotor core for open type motors; fans for splash-proof motors are shaft mounted. The external fans for fan-cooled and explosion-proof motors are cast iron and cast bronze with split hub for ready removal from the shaft extension.

The salient features of the new Fairbanks-Morse Copperspun rotor can be briefly summarized:



The Copperspun Rotor

A truly one piece, indestructible rotor winding.

Especially adapted to severe service such as plugging or reversing duty, which demands greater mechanical strength at abnormal temperatures.

A copper rotor winding, with inherently high electrical conductivity and low thermal expansion.

Accurately machine-finished rotor surfaces.

Desirable and necessary mechanical characteristics insured by a centrifugally cast, temperature-controlled manufacturing process.

High melting point of rotor winding (2000° F. for copper, 1100° for aluminum).

Dynamically balanced to a high degree of accuracy after assembly.

Vimin Flour

Addition of thiamin chloride to bread was proposed by Dr. C. H. Bailey, representing the Millers National Federation, before the Food and Drug Administration at Washington Nov. 16. Dr. Bailey, who is professor of agricultural biochemistry at the University of Minnesota recommended limits for extraction and ash. Other scientists suggested addition of iron, calcium, nicotine acid, vitamin D and riboflavin, to the flour.

C. M. Hardenbergh pointed out that the per capita consumption of wheat had declined from 225 pounds to 154 pounds per year since 1900. Mr. Hardenbergh pointed to the possibility that the marketing of a new flour of this kind may increase consumption and thus benefit the wheat farmer as well as the consumer.

As the name of the flour so enriched, millers appear to favor "Vimin," as indicating vitamins and minerals.

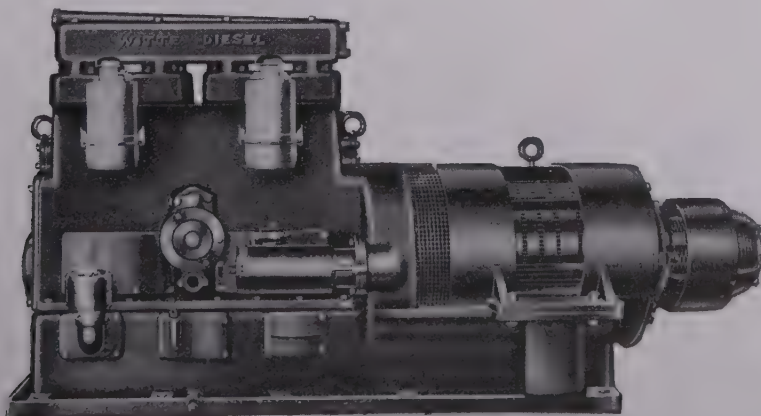
Grain Trade News

[Continued from page 459.]

Among Wisconsin grain plants reporting heavy damages incurred during high winds recently were Larsen Co-op. Co., Larsen; Hoffman Feed Co., Inc., feed mill, Madison; a small loss was reported by the Reeseville Elvtr. Co., Reeseville.

Wausau, Wis.—About 75 persons attended the recent district meeting of the Central Retail Feed Ass'n held at Hotel Wausau when W. B. Griem, Madison, chief of the feed and fertilizer division of the Wisconsin department of agriculture and markets, spoke on "Feed Control Observations."

Keweenaw, Wis.—The Keweenaw Store Co. is building a 9,000-bu. elevator, warehouse, mill room and garage as an addition to its present facilities. New equipment being installed includes a feed grinder, mixer, molasses mixer and molasses tank. Hugh French is in charge of construction. Julius P. Stangel is the Co-operative manager.



A New Diesel Engine

Field Seeds

Chattanooga, Tenn.—The Tennessee Seed Dealers Ass'n held a meeting here Nov. 20.

Portland, Ore.—Seed dealers of Oregon and Washington will meet here Jan. 16 and 17.

New Richmond, Wis.—New seed cleaning machinery has been installed by Doughboy Mills.

Portage, Wis.—The Wisconsin Seed Dealers Ass'n will meet Dec. 11, probably at Portage.

Denver, Colo.—The Colorado Seedsmen's Ass'n will hold its annual convention here Dec. 7.

Dayton, O.—By court order the assets of the Acme Seed Co. will be sold by Receiver Ralph Skilken.

Baltimore, Md.—A larger and modern warehouse has been leased by the Cover Lawn Seed Co.

Estherville, Ia.—The Henry Field Seed & Nursery Co. has leased a building here in which to establish a seed store.

Harlan, Ia.—The district office of the Moews-Lowe Hybrid Corn Co. has been removed from Kirkman to this place.

Toledo, O.—S. W. Flower Seed Merchants is the new name of S. W. Flower & Co., in charge of Robert Burge, assisted by J. E. Nauts.

Braddock, Pa.—A business block including the warehouse of the Lippock Seed & Feed Co. burned Nov. 6. The loss was heavy, but insured.

Storm Lake, Ia.—The Henry Field Seed & Nursery Co. has bought the equipment of the Potter Hatchery and will open a seed store and operate a hatchery.

Seattle, Wash.—W. P. Thurston, a graduate of the University of Washington, has been promoted from assistant to general manager of the Diamond Seed Store.

Plainview, Minn.—To handle its pop corn crop the Plainview Oil Co. has purchased and will put in shape the Eggers Seed House. W. F. Woodcock is manager.

Albany, Ore.—The Chas. H. Lilly Co. has completed the branch plant and warehouse on the site of the plant burned. It has modern equipment and a floor area of 35,576 square feet.

Shenandoah, Ia.—The Henry Field Hybrid Corn Co. has been incorporated with \$75,000 capital stock, and Henry Field pres., W. N. McCoy of Des Moines, sec'y; and M. H. Teget, treas.

Akron, O.—The A. Griesinger Co. has opened a new seed and feed store. Adolph Griesinger, who started the business in 1900, turned it over in 1931 to his son, Paul Griesinger, and son-in-law, Dick Hall.

Lancaster, Pa.—The Federal Trade Commission has closed its case against the American Seed Co., Inc., and Harry H. Bard, its general manager, without prejudice to the Commission's right to resume proceedings. Unfair competition had been charged.

Fredonia, N. Y.—The Grace G. Anderson Seed Co. has been enjoined by the supreme court from interfering with the operations of the Hygrade Seed Co. and restrained from using any documents, records, files and information concerning customers or other personal property belonging to Hygrade Seed Co., Inc.; Best Seed Co., Inc., or Good Seed Distributors, Inc.—G. E. T.

Ames, Ia.—Boone oats, a disease resistant variety released last year by the Iowa agricultural experiment station, won the 1940 yield championship of the Iowa community grain trials with a state average of 67.5 bus. per acre.

Louisville, Ky.—A. B. Collins has purchased ground on which to erect a modern seed and feed house for the Chambers Seed Co., of which he is president. Before July, 1942, the company will remove from its present location.

Nashville, Tenn.—The state commissioner of agriculture has issued a regulation effective Oct. 22 that the maximum number per pound of dodder (a noxious weed) seed allowed in lespedeza seed sold, offered for sale, or exposed for sale in the State of Tennessee is one hundred (100) per pound.

Washington, D. C.—The first instance under the new Federal Seed Act of seizure of seed transported by truck was made, for failure to label, occurred in October, when 140 bags of seed rye were seized on the way from Salisbury, Md., to Wilson, N. C., for S. F. Ware & Co. of Goldsboro, N. C.

Orofino, Ida.—Fifteen tons of clover crested wheat and Michels grass seed were distributed this month in the Pierce and Weippe grazing districts by an airplane, according to the report of Frank Piper on the agricultural program being carried out by the Clearwater Orofino Creek and Dicks Creek grazing ass'ns.—F. K. H.

Walla Walla, Wash.—The Wheat Growers League adopted resolutions at its convention Nov. 17 urging that weed control practices under the agricultural conservation program be continued, and that every effort be made to remove the tolerance allowed noxious weed seeds which are listed as primary or prohibited in several states.—F. K. H.

Goldsboro, N. C.—The North Carolina Dept. of Agriculture has ordered all seed distributed by S. F. Ware & Co. withdrawn from sale, and has notified 85 seed dealers. Withdrawals affect approximately 15,000 bus. of seed which were allegedly misbranded, contained noxious weeds that were undeclared or that were otherwise offered in violation of the law.

Camp Point, Ill.—Wm. Vollbracht, for 45 years a dealer in seeds and wool, died Nov. 6. He is survived by his sons, Roy William Vollbracht, who is associated with him in the business, and Arthur E. Vollbracht.

Fremont, Neb.—Jerry Green was dug out alive Oct. 17 after 600 120-lb. sacks of hybrid corn fell on him in the warehouse of the DeKalb Agricultural Ass'n. A helper who escaped when the stack fell summoned a gang of men who worked furiously for 15 minutes to find Green with a slightly sprained ankle.

Logansport, Ind.—The Federal Trade Commission has closed, without prejudice to its right to resume proceedings, should future facts so warrant, a complaint issued against Lawrence A. Huffman, formerly trading as Plant N-R-G Co. and Plant Energy, Inc., engaged in the manufacture and sale of compounds for use in stimulating the growth of legume and non-legume plants. The complaint had alleged violation of Section 5 of the Federal Trade Commission Act.

Little Rock, Ark.—Of the 277 different lots of planting seeds which were sampled Oct. 1 to 25 by Plant Board inspectors, 17 were found to be misbranded, either as to germination or purity, and were held off sale. Among these were 102 bags of wheat from Oklahoma, containing cheat, held at Little Rock; 230 bus. of oats from Georgia, showing only 40 per cent germination, held at Dumas; 245 bus. oats grown in Pulaski county, showing only 11 per cent germination, held in Little Rock; 2100 bus. oats, grown in Arkansas county, containing cheat and darnel, held in De Witt, and 1600 lbs. Oklahoma alfalfa, containing Johnson grass, held at Little Rock.—Paul H. Millar, Chief Inspector.

Weed-Seed Meetings in Indiana

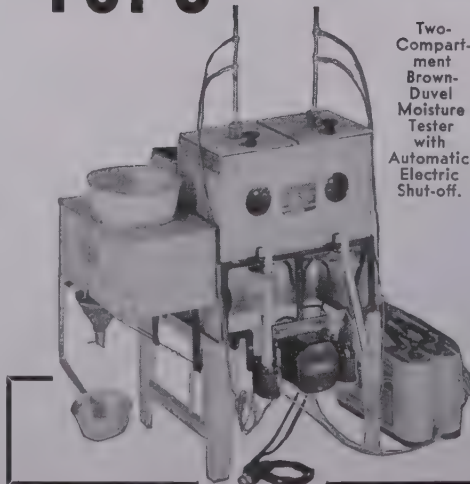
A series of 13 district meetings are being held in Indiana by seedsmen and seed specialists from Purdue University covering weed seeds and weed control.

Subjects under discussion include the Indiana seed law, the federal seed act, and recommended crop varieties. Appearing on the programs are O. C. Lee, extension weedman, K. E. Beeson, extension agronomist, and A. S. Carter, Indiana's seed inspector.

Meetings have been held at Indianapolis, Bloomfield, Evansville, Jasper, Fort Wayne, Richmond, Valparaiso, Crawfordsville, Marion, and Goshen.

Other meetings scheduled are Columbus (Post Office Building), Dec. 10; New Albany, Dec. 11, and Dillsboro (Dillsboro Sanitarium), Dec. 12.

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Tag-Heppenstall Moisture Meter
Emerson Dockage Testers
Boerner Samplers and Mixers
Dockage Sieves—Grain Triers
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CHICAGO, ILL.

Texas Seedsmen Elect Lehman

Texas seedsmen numbering 73 gathered at the Driskill Hotel, Austin, Oct. 25, for the annual convention of the Texas Seedsmen's Ass'n. Presiding over the business sessions was president, A. E. Ruhmann, Waco.

H. C. FULLERTON, of the National Ass'n of Manufacturers, spoke on "Maintenance of Free Enterprise in American Industry," holding out for the right of wholesale and retail seedsmen to conduct their business as they see fit.

CAPT. A. G. SMITH, professor of marketing at the University of Texas, was featured at the afternoon session with a talk on "Retail Advertising by the Seed Merchant."

M. D. MOSTELLER, chairman of the Retail Seedsmen's Com'ite, led an active round-table discussion on "Retailing Seeds."

ELECTION of officers placed Reed Lehman, San Antonio, president; Ben Martin, Vernon, vice president; and G. Curtis Clark, Jr., Corpus Christi, sec'y-treasurer. Retiring president Ruhmann, and G. C. Clark were elected directors for three years.

South Carolina Seedsmen Hold Convention

The South Carolina Seedsmen's Ass'n convened 50 strong at the Wade Hampton Hotel, Columbia, Nov. 14 and 15.

Speakers appearing on the program included H. G. Hastings, Atlanta, Ga., on "Seeds, a Profession or a Trade"; L. N. Allen, southeastern federal seed law enforcement officer, U. S. D. A., on the federal seed law and its enforcement; and Frank S. Love, sec'y, Southern Seedsmen's Ass'n, on seed crop conditions.

A lively discussion centered around the Agricultural Adjustment Administration's spread into the legume seed business to the great cost of southern seedsmen.

Officers elected at the close of the convention are Edward H. Hanna, Gifford, president; J. W. Hare, Anderson, vice president, and L. H. Mixson, Jr., Charleston, sec'y-treasurer. The next convention was scheduled to be held in Anderson, S. C.

Seed Law Being Prepared in Delaware

John L. Clough, seed analyst for the state of Delaware, located at Dover, in the annual report of the State Board of Agriculture for 1939-40, summarizes seed analyses. He gives the number of field seed samples analyzed as 732, the total of official samples received as 288, the total of unofficial samples received as 506, the number of dealers visited as 63, and the number of seed houses represented in the analyses as 10.

Reporting on discussions with Delaware dealers, progressive farmers and agricultural agencies, covering seed law, Mr. Clough says: "... not one has a favorable comment to make on the present seed law. So we can safely say, that the seed law enacted in 1929 has few merits, and after eleven years, is very much antiquated. All parties concerned are in favor of a seed law, but they want one that has plenty of teeth in it.

"The State Board of Agriculture made an attempt to control the sale of seed at sales tables, but were unable to accomplish their purpose. The law upholds a direct sale from one farmer to another farmer, and seed sold at auction is considered a direct sale. The seed sold at these sales is of very poor quality, as we were able to prove by samples that were taken. We were later informed that we were liable to arrest, ourselves, if we attempted to stop sale or take samples of seed at these places of business.

"The writer is preparing a new seed law that will conform with the new Federal Seed Act, and it is hoped that all interested parties will give it support when it is presented to our legislature."

Lawn Seed Regulations Changed in Michigan

Three changes in Michigan's regulations covering lawn seed mixtures have been ordered effective Dec. 1 by Michigan's department of agriculture. The changes are covered by regulation No. 821, which reads as follows:

1. The standard of germination for Rough Blue Grass (*Poa trivialis*) for the 1941 season will be 70%.

2. The standard of 70% germination for White Dutch Clover will be eliminated and replaced by "total—sprouts and hard seeds, 92%."

3. When making up these mixtures if seedsmen find the inert matter in grades A and B is less than the maximum allowed for these grades, additional Red Top may be added to make up the difference. Similarly in the case of Grass Seed Grade D, Red Top and not to exceed 5% Rye Grass may be added.

Texas Moves for New Seed Legislation

The Texas Seed Council ended a two day meeting in Austin, Oct. 27, with drafting of proposed legislation to correlate the Texas seed law with the federal seed act. A com'ite was appointed to follow thru on the proposed changes.

Officers elected to head the Council thru the ensuing year are E. P. Humbert, College Station, chairman; R. V. Miller, Austin, sec'y, and C. M. Clark, Corpus Christi, assistant sec'y. Serving on the Council are A. E. Ruhmann, Waco; A. J. Biggio, Dallas; Linden Jones, Austin; R. A. Manire, Austin; Mrs. A. V. Lawrence, Dallas; C. W. Ditto, Fort Worth, and Reed Lehman, San Antonio. Lane Wilson, Shreveport, La., and J. F. Hickey, Chickasha, Okla., are honorary members.

Imports of Seeds Reduced

Imports of agricultural seeds have dropped to a low figure compared with a year ago, as is demonstrated in the figures for October, and for the four months ended October, 1940, compared with the same periods in 1939, reported by the U. S. D. A., as follows in pounds:

	—October—		July 1, to Oct. 31	
	1940	1939	1940	1939
Alfalfa	.....	200	41,200	322,300
Barley	80,000	.....	80,000	.....
Bean, Mung	242,800	.....	885,300	.....
Bentgrass	5,200	42,500	16,500	81,600
Bluegrass, Can.	2,200	.....	2,200	2,300
Bluegrass, r'gh	.....	207,900	500	265,200
Brome, smooth	211,800	654,400	395,000	1,034,200
Clover, alsike	.....	179,800	200	209,800
Clover, crimson	.....	55,100	.....	4,446,300
Clover, red	.....	11,000	200	13,200
Clover, subt'n	.....	200	6,100	400
Clover, suckl'g	.....	.....	5,200	9,400
Clover, white	.....	81,500	10,100	310,200
Fescue, Chew.	128,800	148,700	713,500	393,400
Fescue, mead.	.....	8,900	.....	13,300
Fescue, other	400	5,100	3,200	5,200
Grass, Bahia	5,500	22,200	15,000	30,900
Grass, Bern'da	.....	.....	200	.....
Grass, Dallis	56,200	10,300	92,900	74,000
Grass, Guinea	.....	10,500	.....	53,300
Grass, molasses	.....	.....	.....	41,500
Grass, orchard	.....	.....	1,000	70,300
Grass, rescue	.....	.....	37,200	200
Grass, Rhodes	21,800	12,000	53,200	56,400
Grass, velvet	.....	.....	2,100	4,000
Kudzu	.....	.....	1,200	5,000
Lupine	66,000	.....	99,700	.....
Medick, black	.....	35,200	56,300	84,800
Mixtures, grass	9,100	27,500	9,100	29,500
Oat	340,100	.....	340,600	.....
Rape, winter	.....	82,600	240,000	1,446,700
Ryegrass, Ital.	.....	100,800	.....	105,200
Ryegrass, per.	5,400	27,800	17,200	102,500
Sourclover	.....	.....	.....	35,000
Sweetclover	240,300	192,100	322,200	319,200
Vetch, common	.....	22,000	.....	22,000
Vetch, hairy	.....	.....	27,000	2,541,400
Vetch, purple	.....	.....	.....	1,000
Wheat	3,400	.....	9,700	.....
Wheatgrass, crested	197,800	236,400	243,100	263,800
Wheatgrass, slender	.....	22,500	2,900	22,700

National Comite on Seed Distribution Becomes Permanent

The Governing Com'ite appointed at a meeting held under the auspices of the Southern Seedsmen's Ass'n, in Atlanta, Ga., last Sept. 30, held a meeting in Chicago, Ill., Oct. 16, to set up as the National Com'ite on Seed Distribution. Its purpose is to work with government agencies in the distribution of legume seeds to farmers, particularly southern farmers, in such manner as to avoid upsets to the seed trade which have followed the program of the Agricultural Adjustment Administration in distributing vetch and field peas thru southeastern states.

Stuart Simpson, president of the Southern Seedsmen's Ass'n, was elected permanent chairman of the com'ite; L. T. Parr, was made sec'y; Frank S. Love, treasurer. Other com'ite members include Howard Jenks, L. M. King, and A. E. Ruhmann.

Utah Seedsmen Convene

The Utah Seed Council held its annual meeting at the Ben Lomond Hotel, Ogden, Nov. 9. Officers nominated and elected unanimously for the ensuing year are: J. J. Porter, Salt Lake City, president; Selvo J. Boyer, of the Utah Crop Improvement Ass'n, vice president, and Victor P. Rasmussen, inspector for the department of agriculture, sec'y.

J. J. Porter, as chairman of the State Uniform Seed Law Com'ite, reported progress on revision of Utah's state seed law, and another meeting was scheduled for Nov. 26 at Salt Lake City for further consideration of proposed revisions.

Joseph Skeen, of Utah's A.A.A. Com'ite, outlined the 1941 program of the A.A.A. The council adopted a resolution pointing out to Golden Kilburn, state executive officer for the A.A.A. com'ite, that seed planted for A.A.A. benefit payments must comply with Utah's pure seed law.

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Coe Seed Co. Opens New Storeroom at Topeka

Handsome building of its kind in the city of Topeka, Kan., is the new 75x150 ft., two-story and basement, building erected by the Coe Seed Co. on Kansas Avenue to house its offices, laboratory, retail sales room, and warehouse stocks of feeds, seeds, fertilizer, twine and numerous other farm supply items.

"The foremost idea in our original sales room plans," says Harry K. Coe, owner, and son of D. O. Coe, who founded the business in 1902, "was to make a definite appeal to the woman."

This purpose is effectively accomplished in the Silverdale cut limestone facing on the front of the reinforced concrete building, which is further adorned with a marquee of steel and aluminum, covering the raised front, and with electric and neon lights and signs.

The retail store and offices are in the southwest corner of the main floor. The offices, fitted with modern furniture, fixtures and equipment, include a private office, a conference room and a seed laboratory. The large retail sales room has efficient racks, tables, counters, drawers, and shelving to display prominently the retail stocks. The rest of the main floor is devoted to warehouse space, and a large overhead door in the middle of the front is readily opened to hand truck orders to the front loading dock.

At the rear of the building is another loading dock, paralleled by a railroad side track, where carloads of seed and feed stocks are loaded and unloaded. The warehouse has capacity for 50 carloads, and from 500 to 600 carloads a year are loaded in and out.

The building has a full basement also used for storage of stocks and for holding surpluses of out-of-season items.

The Coe Seed Co. does a large wholesale as well as a retail business in seeds, buying from country dealers and shipping in carlots. The entire second floor of the structure is devoted to seed cleaning, processing, and warehousing.

A chute in the sidewalk in front of the building leads to a screw conveyor which carries uncleaned bulk seeds unloaded from trucks, 65 ft. back to the interior of the building for elevation to four large steel tanks on the roof where it is stored prior to processing. Another screw conveyor leads from the loading dock at the back of the building to the boot of the elevating leg. These screw conveyors have capacity to handle 300 bus. per hour of seeds; the leg, 3,500 lbs. per hour.

From the steel storage bins the bulk seeds are carried thru spouting to cleaning machines on the second floor for complete processing to meet rigid standards for purity and germination. Kansas alfalfa seed is a leading carlot wholesale item, but seeds are brought in and shipped to nearly every state in the union.

Coe Seed Co. has stocked feeds for a good

many years, but last year it began manufacture of its own Sunrise brand of mixed feeds for poultry and livestock, which it retails and wholesales.

Notice of Approval of Seed Imports Hastened

Information as to whether seed offered for importation meets import requirements of the Federal Seed Act is now furnished directly to collectors of customs and importers from certain Federal State seed laboratories.

The Federal-State laboratories now issuing notices direct are Sacramento, Calif.; Columbia, Mo.; and Lafayette, Ind. The Montgomery, Ala., laboratory will also begin issuing notices direct within a short time. In the absence of the Federal employee in charge in field laboratories, the result of the test will be wired to the Washington office for release to the collectors of customs. Copies of the confirmations of these wires are in all cases sent to the consignee and the importer.

This change in procedure will result in prompter notification to interested persons. It will also make it possible to send more of the notifications by mail which will effect an economy as well as place into the hands of the importers more detailed information concerning the results of the test than was possible previously in the telegrams sent to the collectors of customs.

Idaho Fights Agriculture Dept. Ruling on Michels Grass

E. N. Pettygrove, state commissioner of agriculture for Idaho, accuses the U. S. department of agriculture of using "outrageous tactics" which killed the market for a sensational new grass developed in Idaho. He says: "A tremendous advertising program was launched, and some farmers grew as much as \$100,000 worth of the plant for seed. It would have sold at 30 cents a pound, but the federal department of agriculture stepped in."

"Without any investigation; without any knowledge of what they were talking about, one of the bureaus of the department came out in a news story and said that it was impossible to cross the seeds to produce the grass and that the Idaho men were perpetrating something akin to a fraud."

"The story was published in the magazines in which the seed association had been advertising. It killed the market. No one would buy the crop, and farmers who had grown the plant were 'stuck' for hundreds of thousands of dollars."

"We finally got our congressmen to contact the department of agriculture and send a man out."

"He came, and he investigated the new grass. He found that it lived up to all the things that had been said about it. He made his report and the department finally denied the story."

New Seed Trade Marks

FAIR-VIEW in stencil lettering is trade mark No. 432,285, filed by the Atlantic Seed Co., Inc., Philadelphia, Pa., for field seeds, grass seed mixtures, and lawn seed mixtures.

AN escutcheon-like drawing of silhouetted lions and flowers around the outlined letter "H" is trade mark No. 431,487, filed by Hulsebosch's Seed & Bulb Co., Hillegom, Netherlands, for seeds, bulbs, and plants of all kinds.

IDEAL PASTURE MIXTURES are words worked into and under an oval inclosure for a representation of a farm scene incorporating sheep, dairy cattle, and beef cattle, to make up trade mark No. 431,845, filed by Dale F. Butler, Fresno, Cal., for seeds.

Scope of Kansas Wheat Improvement Program Broadened

Planting of wheat test plots in 32 Kansas counties was recently completed by the Kansas Wheat Improvement Ass'n, co-operating with County Agricultural Agents, Dr. John H. Parker, director, announces. The total number of farmers' samples planted this fall is 3,446, an average of 107 farmers' samples in each county plot. This is more than in any previous year. In addition to the farmers' samples, each plot contains check or control rows planted to such standard varieties as Turkey, Tenmarq and Blackhull in the hard wheat areas of central Kansas, and Kawvale (semi-hard) and Clarkan, in the soft wheat section of eastern Kansas. The whole collection of 3,446 samples of farmers' wheat is also planted in a master plot at Quivira Acres, Manhattan, headquarters of the Kansas Wheat Improvement Ass'n.

Many of the county wheat test plots include samples from lots of wheat stored on farms under the Government loan program. Samples from the Kansas Free Fair, Topeka; Kansas State Fair, Hutchinson, and from several county fairs are another interesting feature of the county wheat test plots planted this fall. Through careful study of these plots next May and June, it will be possible to check the samples exhibited at these fairs for trueness to variety name, type and purity, a sort of "post-mortem," after the fair judges have tied on the blue, red and white ribbons.

Samples of all of the 3,446 farmers' wheats planted in the 32 county plots and in the master plot are kept in glass bottles in a wheat seed house at Quivira Acres, Manhattan, during the year. These samples, arranged by counties and alphabetically by growers' names within each



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county, are being used more and more by cereal chemists, grain dealers, millers, grain inspectors and others who want to see a cross-section of Kansas wheat and study such quality characteristics as kernel plumpness, kernel texture, percentage of dark hard, vitreous kernels and of yellowberry kernels and protein content.

Urges Planting Clean Durum Seed on Clean Ground

William J. Leary North Dakota's extension agronomist, utilizing information gleaned from a shipping point survey of his wheat improvement program, has circularized the trade and boosted for wheat improvement, with such statements as:

"At seed clinics held in cooperation with the State Seed Department, rejections of Amber durum intended for seed ranged from 22% to 94%.

Most durum wheat growers can avoid costly and unnecessary losses by replacing their mixed seed with better seed.

"A review of the situation shows: Two-thirds of the Amber Durum unfit for seed; three times as much mixed wheat marketed in 1939 as in 1938; volunteering will again cause costly mixtures where Amber Durum is planted on fields previously in Hard Red Spring, Red Durum, or barley."

Wheat Varieties in Oklahoma

Blackhull and Turkey wheat varieties continued to lead all other varieties in Oklahoma during 1939, according to a survey of the distribution of wheat varieties made by the Bureau of Plant Industry.

Blackhull was reported on 36.1% of the acreage. In 1924 Blackhull was reported on 12.2% of the acreage increasing to 33.9% in 1929 but dropping back to 31.3% in 1934. Turkey wheat declined drastically in importance from 1934 to 1939, having been replaced to some extent by Blackhull and new varieties which have been introduced into the State in the last few years. Turkey wheat has been rated the most important variety in preceding surveys, being reported as 68.6% in 1919, 52.3% in 1924, 47.4% in 1929, 44.9% in 1934, but dropping to 29.3% in 1939.

Tenmarq, unknown in 1934, advanced to third place in importance in 1939, and was reported on 10% of the acreage. Kanred, which has ranked third in preceding surveys was in fifth place in 1939 having been seeded on 2.5% of the acreage. Alton, of little importance in 1934, was reported on 2.9% of the acreage and is now fourth in importance. Other varieties which make up about 6% of the total are Early Blackhull, Chiefkan, Sibley No. 81, and Redhull.

Of the Soft Red Winter Wheat varieties reported in the survey, Currell ranked first in 1939 and 1934 with 3% and 4.5% respectively. Fulcaster ranked second in 1939 with 2.5% and third in 1934 with 2.9%. Harvest Queen was reported on 1.3% of the acreage in 1939 and 1.8% in 1934. Most of the acreage of Soft Red Winter Wheat is in the northeastern and east-central counties.

In *Ph. Orth Co. v. Consolidated Flour Mills Co.* the U. S. Circuit Court of Appeals at Chicago recently held that the flour buyer was not entitled to refund of processing taxes.

Washington, D. C.—Milling concerns numbering 770, representing 930 mills, producing 92% of the flour manufactured in the U. S., reported to the Department of Commerce total wheat stocks of 178,046,640 bus. as of Sept. 30, which compares with 183,369,742 bus. on the same date in 1939. Of these stocks, 133,007,407 bus. were owned (compared with 156,761,756 bus. last year) and 45,039,233 bus. were stored for others compared with 26,607,986 bus.).

Feedstuffs

Brewers Dried Grains production during October amounted to 7,100 tons, against 8,300 tons during October, 1939, as reported by the U. S. D. A.

Distillers Dried Grains production during October amounted to 16,100 tons, against 12,500 tons during October, 1939, as reported by the U. S. D. A.

Fort Wayne, Ind.—The Central Soya Co. has added to its research department Dr. A. W. Kleinsmith of Clinton, Ia., and Dr. W. E. Holland, Indianapolis, Ind.

New York, N. Y.—Members of the Produce Exchange importing feeds have voted that a com'te be named to draw up a contract form to be used in the importation of feeds. Axel Hansen is chairman of the com'te.

The Central Retail Feed Dealers Ass'n certificate of merit was presented to James Galbraith of Tomahawk, Wis., by Pres. Paul Gebert, Jr., of Merrill at the Four-H Club achievement banquet. A 14 carat gold pin was included.

Lowville, N. Y.—Allen Bush of this city has been appointed by President Albert J. Thompson to act as director of the Eastern Federation of Feed Merchants, Inc., to fill the vacancy created by retirement of Fred M. McIntyre from the retail feed business. New members listed by the Federation include Dickerson Bros., Thompson Ridge; B. R. Baldwin & Son, Cincinnati; H. W. Hunt, Killawog, and J. H. Parker, Whitney Point.

Salem, Ore.—At a meeting of the feed com'te of the Oregon Feed Dealers Ass'n with A. W. Metzger, chief of the state division of foods and dairies, it was agreed that substitution of concentrates may be made during the year without an additional registration expense, but in all cases, tags must be changed so that the tags will correspond with the registration; that analysis of scratch feeds was unnecessary, but the state department will continue to pick up samples to scan ingredients; importers of concentrates will be asked to notify the Portland office of the department when they have shipments coming in; the state department will permit calcium, phosphorus, manganese, iodine and salt only to be guaranteed on mineral tags. Trade elements can be listed, but not guaranteed.

Utilization of Feedingstuffs

By FORBES, BRATZLER and FRENCH of Pennsylvania Agri. Exp. Station

Determinations were made of the digestibility and of the metabolizable energy of 11 feeding stuffs. These include silage made from alfalfa, soybean herbage and clover-timothy mixture, each preserved with molasses in comparison with phosphoric acid; finely cut corn stover, gluten feed, and soybean oil meal made by the hydraulic, the solvent, and the expeller processes.

Further, calcium and phosphorus balances were determined with the rations containing the six kinds of silage.

The experimental periods were 28 days in length, including 10-day preliminary feeding periods and 18-day periods of collection of feces and urine.

The digestibility of the three soybean oil meals differed comparatively little, but the product of the solvent process had a slightly higher content of digestible protein and slightly lower content of total digestible nutrients than had the two other soybean oil meals.

The digestibility of the gluten feed was materially lower as to dry matter, ether extract, and crude fiber, than the average values as compiled by Morrison; and the digestibility of the corn stover, especially its crude protein and ether extract, was much lower than as given by Morrison.

Among the soybean oil meals, the solvent product was highest in digestible protein but lowest in total digestible nutrients and metabolizable energy.

The digestible protein values of the acid silages were slightly higher than those of the molasses silages, but the total digestible nutrient and metabolizable energy values of the molasses silages were materially higher than the corresponding values of the phosphoric acid silages.

The calcium and phosphorus balances with the rations containing the silages were generally positive, the largest calcium storage and the only phosphorus loss being observed with the ration containing the soybean-phosphoric acid silage, this high calcium utilization being considered as reflecting the influence of the high acidity of the ration, and the phosphorus loss as a result of some unexplained influence other than the phosphorus intake.

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Vitamin B Fractions

By DR. C. A. ELVEHJEM, University of Wisconsin, before Cornell Nutrition School.

The B vitamins may be discussed from several different angles, but I imagine most of you are interested in the practical application of the knowledge that is now available to us. In any case, the first requirement is some understanding of the chemistry and function of the individual components.

Many workers feel that there are now so many factors in the group that it is almost impossible to comprehend the significance of all the so-called B vitamins. I have only two answers for this point of view.

First, the confusion which now seems to exist has arisen largely because we have not recognized rapidly enough the individual entities and have tried to associate several deficiency states with one factor. The picture is greatly simplified with the availability of six of the members in synthetic form and will continue to improve as more of the factors are obtained as pure compounds. This knowledge will come with further research, but in the meantime there is bound to be some difference in the interpretations of the results that are obtained in different laboratories.

Second, it is logical to expect the existence of a fairly large number of water-soluble vitamins in nature. Many simple compounds are required in metabolic processes and if the tissues cannot synthesize them they must be supplied preformed in the diet.

I should like to emphasize the quantitative aspects of the better known B vitamins, that is, the distribution of these factors in feeds and the requirements of different species for each of these vitamins. I am afraid many of us have become overly enthusiastic about symptoms in experimental animals. These observations are very important in studies on the identification of new factors or the assay of the factor in foods, but they do not solve practical nutrition problems.

The gross symptoms of any one vitamin deficiency may vary markedly in different species and with different degrees of deficiency. Often there may be borderline deficiencies without specific symptoms. In the final analysis we as nutrition people are interested in producing a normal animal and the only way of doing this is to know if the intake of all essential nutrients is equal to the demand for these nutrients and if the intake does not equal the demand how to remedy this deficiency. In other words, we must know when fortification is necessary and what feeds to fortify. Let us see how much of this knowledge is available for the B vitamins.

Vitamin B₁ or thiamin is now available in synthetic form. This compound or its phosphorylated ester, cocarboxylase, is widely distributed in nature and very few feeds are exceptionally rich in this vitamin. The excellent sources are beans, oats, peanuts, peas, and yeast. The activity of the vitamin is readily destroyed by moist heat due to breakdown of the molecule into its two component parts. Chemical and fermentation methods have been devised for the estimation of thiamin which greatly reduce the time factor but the rat and chick assay procedures are still the most reliable when a variety of materials are to be tested. Many more assays are needed on typical farm feeds.

When thiamin enters the animal body it is converted to cocarboxylase, which functions as a coenzyme for the metabolism of pyruvic acid. The requirement for this vitamin is directly dependent upon the carbohydrate intake since animals placed on high fat diets require a correspondingly lower amount of the vitamin. Do we need to fortify our feeds with thiamin?

In the case of all B vitamins we must distinguish between ruminants and non-ruminants because rather definite evidence is accumulating that most of the B vitamins can be synthesized by ruminants. The original observation of Bechdel and co-workers in 1928 that the rumen

contents from a cow on a vitamin B₁ deficient ration contained appreciable amounts of vitamin B₁ has now been verified. However, we must recognize that the type of diet may play an important role in the degree of synthesis. In other words, there may be more synthesis when a purified diet is used than when the average farm diet is given.

There is little danger of a thiamin deficiency in any of our farm animals because of the high grain content of most rations. Grains contain from 2 to 8 gamma of thiamin per gram and even when used as a relatively small part of the ration easily supply 100 gamma per 100 grams of ration. Feeds subjected to heat in the presence of moisture, especially if the pH is close to neutral, are likely to be low in this vitamin. The best example is canned dog foods.

Each can of dog food should contain at least 100 gamma and it is only possible to insure amounts above this level by adding certain ingredients fairly high in thiamin and controlling the canning process. In this connection we should mention the possible relation of Chastek paralysis and vitamin B₁. This condition is produced in foxes by high fish diets and is prevented to some extent by high amounts of thiamin (Green and Evans) and Coombes. Certain constituents in the diet may increase the requirement for specific vitamins far above the normal demand.

[To be continued]

The Federal Trade Commission has amended its complaint against the Federal Compress & Warehouse Co., Memphis, Tenn., to include charges of negotiating and making cotton production credit loans directly and indirectly to cotton planters and cotton ginners for the purpose of driving competitors out of business and obtaining the cotton so grown and ginned for its various compress plants.

Fertilizer Trade Mark

SOY-AL-KING is trade mark No. 433,185, filed by A. E. Staley Manufacturing Co., Decatur, Ill., for soy bean oil meal usable as a fertilizer. Use is claimed since Mar. 28, 1940.

Imports and Exports of Feeds

Imports and exports of feedstuffs during September, and for 9 months ending September, 1940, and 1939, as reported by the Bureau of Foreign and Domestic Commerce, were as follows, in tons of 2,240 lbs. except where noted otherwise:

	IMPORTS			
	September 1940	1939	9 months ended 1940	1939
Hay*	1,196	3,834	44,503	28,637
Coconut cake†	19,110,463	11,349,848	149,108,496	83,856,194
Soybean cake†	500,000	5,695	20,193,752	21,139,670
Cottonseed cake†	2,971,964	6,695	62,631,443	6,662,991
Linseed cake†	...	212,000	2,556,000	9,649,091
All other cake†	620,170	1,101,200	18,714,795	20,846,883
Wheat fds.*	48,274	41,119	338,628	314,457
Beet pulp*	...	...	1,038	7,975
Tankage	9,459	5,631	43,850	52,496
Fish-scrap	1,264	1,300	33,258	33,160
	EXPORTS			
	September 1940	1939	9 months ended 1940	1939
Hay	302	123	2,803	2,034
Cottonseed cake	...	173	31	174
Linseed cake	...	16,648	83,771	182,122
Other oil cake	...	...	1,205	4,895
Cottonseed meal	36	1,004	743	3,162
Linseed meal	71	1,477	3,348	9,552
Babassu cake-meal	...	505	368	670
Soybean oil cake-meal	935	2,081	33,246	24,074
Other oil meal-cake	112	527	10,143	4,006
Fish meal	2	24	204	250
Mxd. dairy and poultry fds.	564	1,001	6,494	8,627
Oyster shells	1,736	6,444	15,522	38,506
Other prepared and mxd. fds.	81	387	1,595	2,782
Other fd. bran	539	998	10,293	14,947
Kafr, mlo (bus.)	...	18	1,321	1,372

*2,000 lb. ton. †Pounds.

Feeds & Feeding

by

F. B. Morrison

Fifth Printing

20th Edition

This edition has been entirely rewritten and revised to contain the latest information on live stock feeding and nutrition. Entirely new compilations of recent analyses of American feeds are presented in the Appendix Tables. Extensive data are presented concerning the mineral and vitamin content of important feeds.

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Grain & Feed Journals

Consolidated

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Chicago, Ill.

Feed Substitutes for Corn

While one government bureaucracy impounds corn in farm cribs and steel bins to force up its price, another less direct agency tells farmers that corn is not essential to efficient production of hogs, and actively encourages the use of other, lower priced and free market feeds. This was demonstrated when Kansas farmers met at Manhattan for the annual Swine Feeders' Day at Kansas State College.

Dr. C. W. McCampbell, head of the department of animal production, declared that corn is not essential to the production of good hogs or good pork. Equally good pork can be produced by feeding other grains, often to economic advantage.

Wheat is a good grain for a basic ration to develop either stock or fat hogs, declared the speaker, but is often high in price in relation to other grains. Rye is less palatable and hogs will not normally eat enough to produce a finish that equals corn, but it may be fed with more palatable grains.

"Barley is another feed," said Dr. McCampbell, "that can be satisfactorily substituted for corn as a hog feed. Barley contains more protein than corn, therefore, less protein is necessary to properly balance barley than corn, and because of this fact, hogs fed barley and protein supplement free choice will usually eat more of the protein supplement than is actually needed."

"Grain sorghum is the crop that deserves most consideration as a hog feed in Kansas. Year after year the sorghums have demonstrated their drouth resisting ability and dependability as a grain crop in this state. The constantly increasing acreage of this crop and the fact that the grain sorghums are about the equal of corn for hog feeding purposes emphasizes the need of giving more thoughtful consideration to a hog production program based upon grain sorghums as the basal ration to be fed."

"Grain sorghums may be classified into four major groups—feterita, milo, kafir and certain sweet sorghums, particularly Atlas sorgo. There is not much difference in the feeding value of these different groups, yet enough to justify a ranking in the following order: Feterita, milo, kafir and Atlas sorgo."

Say's grain bug is becoming a real menace over parts of the Canadian provinces and the western states.—Cargill Crop Bulletin.

Feed Prices

The following table shows the closing bid price each week for January futures of standard bran and gray shorts, cottonseed meal and spot No. 1 fine ground alfalfa meal, in dollars per ton, and No. 2 yellow corn and No. 2 yellow soybeans in cents per bushel:

Minneapolis Spot				Kansas City			
		Bran	Midds			Bran	Shorts
Oct. 11.....	18.00	18.50	18.75	Oct. 11.....	22.00	23.35	76%
Oct. 19.....	19.25	18.25	19.10	Oct. 19.....	22.35	23.20	80%
Oct. 26.....	20.00	20.00	19.20	Oct. 26.....	22.25	23.50	84%
Nov. 2.....	20.50	20.00	19.85	Nov. 2.....	22.90	23.50	88%
Nov. 9.....	21.00	20.75	20.70	Nov. 9.....	23.85	24.15	95%
Nov. 16.....	23.25	23.00	20.20	Nov. 16.....	23.50	23.90	104%
Nov. 23.....	22.00	21.50	20.15	Nov. 23.....	23.10	23.25	100%

St. Louis*				Chicago			
		Bran	Shorts			Soybeans	Meal
Oct. 11.....	22.00	23.35	76%	Oct. 11.....	22.00	21.50	65%
Oct. 19.....	22.35	23.20	80%	Oct. 19.....	22.35	22.00	67%
Oct. 26.....	22.25	23.50	84%	Oct. 26.....	22.25	22.20	65 1/2
Nov. 2.....	22.90	23.50	88%	Nov. 2.....	23.00	22.20	64
Nov. 9.....	23.85	24.15	95%	Nov. 9.....	23.00	22.20	65 1/4
Nov. 16.....	23.50	23.90	104%	Nov. 16.....	23.00	22.20	68
Nov. 23.....	23.10	23.25	100%	Nov. 23.....	23.00	22.20	65%

Cottonseed Meal				Kansas City			
		Ft. Worth	Memphis			Alfalfa	Chicago
Oct. 11.....	29.00	21.95	21.20	Oct. 11.....	22.00	65 3/4	65 3/4
Oct. 19.....	30.00	22.00	22.00	Oct. 19.....	22.20	65 1/2	65 1/2
Oct. 26.....	31.00	23.75	22.20	Oct. 26.....	22.20	64	64
Nov. 2.....	33.00	25.50	22.20	Nov. 2.....	23.00	65 1/4	65 1/4
Nov. 9.....	33.00	27.60	22.20	Nov. 9.....	23.00	68	68
Nov. 16.....	34.00	28.50	22.20	Nov. 16.....	23.00	65%	65%
Nov. 23.....	35.00	28.15	22.20	Nov. 23.....	23.00	65%	65%

*St. Louis bran basis Chicago delivery; shorts St. Louis delivery.

Toasting Soybean Oil Meal

By J. W. HAYWARD

The operations for toasting 44 per cent soybean oil meal are as follows: The extracted flakes are conveyed from the regular driers or cookers to our toasting equipment and then to a cooler before placing them in a retainer tank from which they are ground into meal and sacked. This is a continuous process. The extracted flakes enter the toaster at a temperature of about 180 degrees F. and are toasted largely by direct heat from steam jackets, always at controlled temperatures. A regular flow of live steam is injected into the toasting chamber.

The internal temperatures of the flakes never exceed 220 degrees F. and the over all time for this toasting operation is about 75 minutes, depending upon the moisture of the flakes. In this way one may see that the total cooking time for our toasted 44 per cent soybean oil meal is about 90 minutes—15 minutes in the extraction driers or cookers and 75 minutes in the toaster.

This permits a slow but thoro cooking of the meal and there is no danger of overheating it in this controlled process. This description of toasting operations of course applies to the procedure used by Archer-Daniels-Midland Co. and I imagine that the other solvent processors toast their meal in a similar way.

We go to great pains in controlling the temperatures with accurate instruments. In our biological laboratory we make actual determinations of protein efficiency and general all-around feeding properties. Our soybean oil meal Bulletin No. 11 contains a description of the merits of our toasted 44 per cent protein soybean oil meal and gives a table showing some of the results that we have found for several meals.

There is a definite need for a rigid control of the temperatures used in manufacturing soybean oil meal. We have been asked what kind of processes we use in manufacturing soybean oil meal, and I wish to advise that we use all of them. In other words, we have hydraulic equipment at some of our plants and at one large plant we have Anderson expellers and French screw presses, both in the same plant operating side by side, and the meals produced by this equipment are referred to as the expeller or 41 per cent and sometimes old process soybean oil meal. Then, we have the continuous solvent extraction units at Chicago and Decatur.

Grinding Feed for Profit or Fun?

Better feeders recognize the value of a properly ground and mixed feed. We are interested in noting the large increases in the number of plants for grinding and mixing feeds. Such a business should prove a profitable sideline for the dealer and render a valuable service to his community provided it be operated on a scale of charges that will produce for the operator a satisfactory return.

Some of our feed dealers are considering holding group meetings during the winter months where cost items will be taken up and discussed in an effort to arrive at a reasonable and satisfactory charge for their services, and we urge that any dealer operating a grinder or mixer make a careful survey of his individual costs then base the sale of his product or service on that cost plus a reasonable profit. —J. F. Moyer, sec'y Kansas Grain, Feed & Seed Dealers Ass'n, Dodge City, Kan.

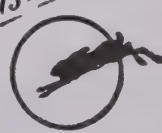
Ithaca, N. Y.—Cornell University scientists are experimenting with "pasteurizing" soils with electricity to kill insect pests and weed seeds. Temperatures of 150 degrees F. have been found high enough for this purpose. Treatment is limited to small areas.

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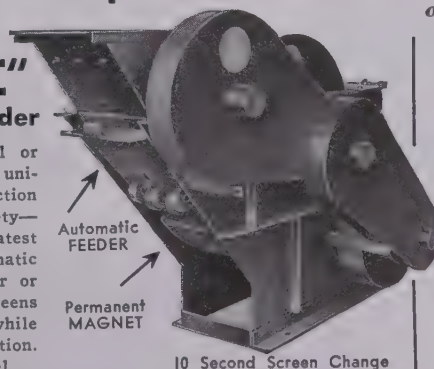
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Feeding Machine-Dried Legume Hay

The Jeanerette, La., station of the Bureau of Dairy Industry is located in the Gulf coast region, which is characterized by heavy rainfall, high humidity, and a long growing season. Under these conditions certain grasses and clovers grow well, but it is difficult, and often impossible, to cure them into desirable hay in the field. To overcome this difficulty experiments with mechanical hay driers were started several years ago at this station by the Bureau of Agricultural Engineering. Since 1932 practically all of the crops grown for hay have been cured in a rotary-type drier.

From 12 to 18 months of age, all the heifers are fed a ration of machine-dried legume hay exclusively. During this 6-month period they get all the hay they will eat, but no pasture, silage, or grain. From 18 months of age until they freshen, they are on pasture during the pasture season (otherwise on machine-dried hay) with corn silage and grain in addition. Since 1936, a total of 13 heifers have been on this feeding schedule to 18 months of age, and 11 to 24 months or more of age.

The machine-dried hay fed during this 3-year period (1936-38) was approximately 85 per cent of clover (mostly Louisiana white, some red clover, and other mixed clovers and grasses) and about 5 per cent each of soybean, alfalfa, and grass hay. The green material was cut rather fine before it was run thru the drier.

In order to compare the growth of these 13 heifers with the growth by other heifers raised under the same environmental conditions monthly weights were tabulated for 46 heifers raised in the main herd prior to 1936. The 46 heifers and the 13 heifers were raised in a similar manner up to 12 months of age (a few of the 46 and 6 of the 13 received skim milk to 12 months of age). From 12 to 18 months of age, however, the 13 heifers had only machine-dried roughage, whereas the 46 had pasture in season or were winter-fed on field-cured legume hay, corn silage, and grain. Comparisons are made by including the 6-month averages for group 1 that was fed on machine-dried hay and pasture at Lewisburg, Tenn., and those for the Missouri standard.

At 12 months of age, when the 13 heifers were placed on the experimental ration of machine-dried roughage alone, their average body weight was 476 pounds, or 70 pounds more than

that of the 46 heifers that were raised in the regular manner. The former group had gained an average of 228 pounds from 6 months of age, as compared to 173 pounds for the latter. Probably this was due to the fact that nearly 50 per cent of the former group had skim milk to 12 months of age. The 13 heifers were 26 pounds above the Missouri standard in average body weight at 12 months of age, while the 46 heifers were 44 pounds under the Missouri standard.

At 18 months of age the 13 heifers averaged 608 pounds in body weight, a gain of 132 pounds in 6 months, or 0.73 pound per day. The 46 heifers gained an average of 151 pounds in the same age period, or 0.84 pound per day. The Lewisburg heifers, also on a roughage ration during the same age period, gained at the average rate of 0.79 pounds per day.

The 13 heifers averaged 6 per cent heavier than the Missouri standard at 12 months of age, but only 1 per cent heavier at 18 months of age. From 18 to 24 months of age, the 13 heifers made a lower gain than any of the other groups. This may have been due partly to the fact that they were above normal weight at 18 months of age. They had carried calves for an average of only 62 days up to 24 months of age.

The hay consumption of the 13 heifers, during the 6 months on that ration, was 13.9 pounds per heifer per day, averaging 10.6 pounds at 13 months of age and gradually increasing to 15 at 18 months. This was somewhat less than the 15.8 pounds consumed by the group of Jersey heifers in the Lewisburg experiment that were fed on machine-dried roughage alone during the winter-feeding period. If the machine-dried roughage fed to both groups is assumed to have the same total digestible nutrient content (55 per cent), the Jeanerette heifers consumed 7.65 pounds of total digestible nutrients daily and the Lewisburg heifers 8.72 pounds. The Lewisburg group was lighter in body weight than the Jeanerette group and consumed approximately 26 per cent more total digestible nutrients than they required, while the Jeanerette heifers, being heavier, just about met their nutrient requirements.

The results of this experiment agree with the results of the Lewisburg experiment in that Jersey heifers over 1 year of age will make satisfactory gain (as measured by body weight) when given an unlimited quantity of machine-dried legume hay of good quality without the addition of silage or concentrates.—Circ. 560, U. S. D. A.

Feed Laws and Feed Dealers

By DAVID K. STEENBERGH, Milwaukee, Wis.,
before Ass'n of American Feed Control
Officials.

CHARGES OF LAX ENFORCEMENT are usually tempered with the additional statement that laboratory facilities are inadequate or that the control staff is too small. These are the states in which most of the income from license fees is diverted to other uses.

The feed trade unanimously believes that all feed license fees should be used for feed control work and favors revolving funds instead of payments to and legislative appropriations from the state treasury. The Ohio Grain Mill & Feed Dealers Ass'n and the Western Grain & Feed Ass'n of Iowa have recently been successful in obtaining larger appropriations for feed control work in their states. The Eastern Federation of Feed Merchants is campaigning for more funds and an extension of control work in New York, New Jersey and Pennsylvania.

All feed control officials would find it advantageous to co-operate more closely with the feed trade organizations of their various states.

COMPLAINTS OF DICTATORIAL ADMINISTRATION are restricted to very few states and are due to petty interpretations and policies of the control chiefs and their inspectors. Most control officials properly differentiate between accidental and willful violations, but there are a few who prosecute at every opportunity and those few obtain poorer long range results than the majority who do not exact the "pound of flesh."

ANALYSIS REPORTS—The system of listing individual analysis reports by brands and manufacturers, also showing origin of sample, informs the trade with respect to the standards observed by each manufacturer and for each feed. Such information is helpful as a buying guide whereas the system followed by some states of merely tabulating the number of tests together with the high, low and average analysis is worthless except for the compilation of a safe analysis table. Some dealers have also suggested that frequent general reports would keep the trade more currently informed than the present annual publications which are outdated before generally available.

Everybody recognizes that the business of administering the feed laws has become increasingly difficult and complicated in recent years. Many states have more than 1,000 licensed manufacturers of several thousand different feeds as contrasted with several hundred just a few years ago. This increases the number of samples which must be collected, the number of analyses which must be made and the number of inspectors necessary to do the work. Feed inspection costs have been increased but the trade does not complain about this and, in fact, generally favors larger appropriations and more extensive feed control activity.

CUSTOM MIXING must eventually be regulated, many in the trade believe. It is claimed that many small mixers entirely avoid feed registration and inspection through subterfuge custom mixing. It is further claimed that these same offenders also use inferior ingredients to produce cheap feeds which are unfair to their competitors, unsatisfactory to their feeders and harmful to the good reputation of the feed industry.

How to regulate custom mixing is an unsolved problem but one organization which has given the matter considerable thought suggests that every custom mixer be required to keep a duplicate invoice showing weight and price of each ingredient for each batch. It is further recommended that each sack be tagged with the name of the mixer, the customer and the date and that a tonnage fee be paid the state feed inspection department.

BIOLOGICAL ASSAYS—The last and most striking request of the feed trade is that



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feed control activity be expanded to include the general use of biological assays in feed inspection work. There is widespread realization that the chemical analysis of a mixed feed or feed ingredient, in the light of present day advanced nutritional knowledge, is no longer a dependable guide to feeding quality or value.

Vitamins and minerals, as well as protein, fat and fibre, must be considered and, as we all know, biological assays for vitamin D are now being made in at least six states. This expanded feed control service is greatly appreciated wherever available and urgently desired by the trade in all the remaining states.

The New Era in Feeds

By Col. J. W. KELLER, of American Feed Manufacturers Ass'n, before Ass'n of American Feed Control Officials.

Feeding is a primary biologic urge of all things organic. Even in man it is too often instinctive rather than intelligent. The feed industry arose as intelligence was injected into the picture. Our own animal feed manufacturing is the direct outgrowth of a proper economic desire to obtain more profitable feeding results and to afford feeders greater convenience. The latter reason is so apparent, particularly in the case of prepared feeds, that no further exposition of that factor seems necessary, even though new physical forms and combinations of feeds and new and better packaging have engaged much attention of manufacturers.

The true new era in commercial feed manufacturing comes thru our industry's success in furnishing the public with feeds that give greater profit thru their use. The day when the best feeds can be made from a few different grains and some simple tools, the day when a mixing shovel and a level floor was all that a feed maker needed, is past. The new era began when our products were revised on the sound principles of scientific research and manufacture.

Present day feedstuffs were not originally processed for animal feeding, but were simply edible by-products which arose from the manufacture of human foodstuffs. So, with the new era, the by-product feed has risen from the lowest seat to the place of honor. Many by-products now constitute the most valuable feeding portions of our grains and the feed industry has made this so.

A survey of the feed manufacturers embraced in the membership of the American Feed Manufacturers' Ass'n shows that at the present time about 20 per cent of our members have substantial specialized research personnel and facilities. This furnishes deep food for thought and additional proof of our evaluation of scientific work.

Private research has given the feed industry new products and improved old ones. It has found new uses and broader markets for both old and new feedstuffs and feeds. By its improvement of manufacturing processes and quality of materials and by cutting down waste it has cut costs to the consumer. By their intimate contact our laboratories have quickly and willingly taken the findings of the college laboratories, as well as their own, converted them to a practical form and made the work available to feeders far more promptly and effectively than could be done by extension or other state educational institutions. And by this co-operation and public education, our laboratories have strengthened the entire feed industry. The laboratories of our new era have had a marked effect on management's thinking. The feed manufacturer today puts far more value on performance of products than in yesteryears.

Feed manufacturers have played a leading role in the poultry and livestock industries. For example:

Feed manufacturers originated poultry starting feeds and pioneered other special purpose feeds to give maximum results for broilers, breeders and turkeys. Feeds have been developed which made it practical to continue poultry raising in large population centers by

providing better sanitation and reducing labor. Without special feeds, battery and indoor poultry raising would be impossible. Even the colleges recognize this and many are advising poultrymen to use good commercial feeds for maximum results.

Beginning with the feed manufacturers' work over a century ago, calf feeds have been devised and developed so that they now make possible the raising of normal cows at a great saving in milk and feeding cost.

In the dairy industry, feed manufacture has demonstrated the need for better nutrition for dry cows and developed special low cost feeds that indirectly mean a tremendous saving over old methods.

The commercial feed manufacturers introduced the use of vitamins in stock and poultry feeds. This valuable practice, now almost universal, was discouraged at first by several authorities.

It was the feed manufacturing industry that did the basic work and developed scientific dog feeding which has grown into a sizeable business.

Specific feeds for fur bearing animals have been one of the most important factors in the advance of that industry. Such feeds were developed by the feed manufacturers.

Special supplements have been developed for the big grain areas. Their intelligent and judicious use has done much to bring down feeding cost, as well as effect a more complete local utilization of natural resources.

Let's stop thinking and talking about the "honest" and the "dishonest" manufacturers. The public has had too much of that pernicious propaganda about business in the past from sources both high and low. Manufacturers are men, and I suspect that in cross-section you would find our morality rating averaging about the same as other men. Dishonesty is always prominent only because it is so rare, not because it is common. In this new era of feed manufacturing most manufacturers are doing a mighty creditable job of putting out feeds of true guarantees and claims. This betterment of feeds has not been confined to the big manufacturer alone. Competition, that lifeblood of free industry, has forced the smaller firms to make better feeds and all concerned have gained. Wise regulation, honest production and close co-operation has proven an unbeatable combination in giving the American feeder really remarkable products.

Tentative methods for determining filth, rodent hairs and excreta, insect fragments and other foreign material in corn meal, wheat meal, and flour have been devised by W. G. Helsel and K. L. Harris of the micro-analytical division of the Food & Drug Administration.

Texas Feed Manufacturers Study Research

The Texas Feed Manufacturers Ass'n held its fall meeting Nov. 15 in the Research Administration Building, Texas A. & M. College, College Station, Tex., with more than 50 feed firms represented.

PRESIDENT WILEY AKINS, Dallas, presided over the two business sessions.

The meeting was welcomed by Dr. F. D. Fuller, of the college. W. R. Archer, Houston, made the response.

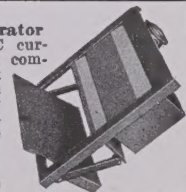
LEADING subject before the meeting was research. Jack Shelton, vice director of the extension service of A. & M. College, considered this in an address, and the ass'n's com'te on research projects, consisting of L. E. Church, and W. R. Archer, Houston, and P. Frank Walsh, Fort Worth, reported on its investigations.

J. R. COUCH, of the division of poultry husbandry, Texas Agricultural Experiment Station, discussed the "Effect of Manganese Sulphate on Egg Production and Hatchability."

JOHN K. RIGGS, from the experiment station's substation No. 7, Spur, explained "Quantitative Requirements of Beef Cattle for Vitamin A."

OFFICERS of the ass'n are Wiley Akins, Dallas, president; G. E. Cranz, and W. W. Bridges, Fort Worth, vice president, and sec'y-treasurer, respectively.

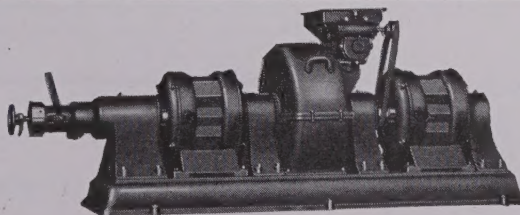
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Poultry Feeds and Feeding

The cost of poultry ration used in the Chicago feed-egg ratio was a little lower in early November than it was in late October, and the price of eggs was a little higher. As a result, the number of eggs required to buy 100 pounds of feed was smaller in early November than it has been any time since last February—U. S. D. A.

Lafayette, Ind.—Many successful poultrymen find that dehydrated alfalfa leaf meal is an excellent substitute for fresh green seeds. In laying rations where approximately 50 per cent of the total ration is in yellow corn, the addition of five per cent dehydrated alfalfa leaf meal to the ration should supply sufficient quantities of vitamin A for the necessary margin of safety.—Scott Hinners, extension poultryman of Purdue University.

Higher Egg Yield by Feeding Mash and Grain Separately

By H. L. WILCKE, Iowa State College

Though simplest, the all-mash system of feeding poultry is the least profitable. At Washington State College five different rations were used. One group of birds received an all-mash ration. The second group got 70 per cent of mash and 30 per cent of grain fed in the litter. The third group got the same ration except that the grain was fed in hoppers. A fourth group received a ration made up of 50 per cent mash, 21 per cent of pellets fed at noon and 29 per cent of grain fed in the litter. The fifth lot was fed a 41 per cent protein concentrate with cracked corn 12 per cent, oats 9 per cent and wheat 58 per cent, all free choice.

The mash fed in the first four lots analyzed 18½ per cent protein. The average protein content of the total feed consumed by each lot was almost identically the same except for the fifth lot, which was about eight-tenths of one per cent higher than the other four.

In the 9 months of the experiment, the birds on the all-mash ration averaged only 118 eggs per bird, as compared with 123 for birds with grain fed in the litter, 136 for the birds that were fed in hoppers, 141 for those fed pellets at noon and 150 for those fed the concentrate.

The feed cost per dozen eggs varied from 8.6 cents per dozen for the concentrate-fed birds up to 11.5 cents per dozen with the all-mash system of feeding.

Chicks Need Cereal Products

Existence of a chick growth promoting substance present in liver, kidney, and cereal products is reported by E. L. R. Stokstad, P. D. V. Manning, and R. E. Rogers, from experiments at the research laboratory of the Golden State Co., Ltd., San Francisco, Cal. This growth factor is not identical with alphatocopherol, arginine, or linoleic acid, since these pure materials failed to show a response.

Outstanding characteristics of the growth factor are its insolubility in methanol and water and its strong linkage to protein which is not broken by 30 minutes of boiling in water. Riboflavin exists in liver combined with protein, but in this case the bond is broken at boiling temperatures.

Other workers were unable to extract the factor from polished rice by ether, acetone, or 95% alcohol, but have reported a growth promoting substance which appears similar to the one studied in these experiments. The factor can be brought into solution from cartilage by autoclaving for 2½ hours with 0.1 N sulphuric acid.

The results of the experiment showed that a simplified diet containing all known vitamins is inadequate for the chick. The addition of liver,

kidney, or cereal products promotes normal growth and decreases mortality.

The factor follows the protein fraction when kidney is dissolved in alkali and precipitated with acid. It is stable to autoclaving at an acid pH, but only partially stable at a neutral or alkaline pH.

Nutritional Deficiency in Turkeys

Nutritional deficiency is responsible for a number of diseases in poults, among which rickets, nutritional roup, and slipped tendons are most common. Rickets is indicated by the softening of the beak and the bones, leg weakness, slow growth and slow feathering. It is caused from an inadequate supply of vitamin D in the feed rations. Growing poults require more of this vitamin than growing chicks. Nature's best source of vitamin D is direct sunlight and poults that have access to outdoor conditions or have a sun porch receive much of the required amount of this vitamin in this manner. Another good source of this vitamin is high grade fish oils and when the poults are kept in confinement their starting and developing mashers should be supplemented with such oils.

Slipped tendon is usually indicated by bowed legs and enlarged hock joints, due to an improper balance between the minerals in the feed. One of the most common causes is a deficiency of manganese. When this is supplied in the feed with proper balance of calcium and phosphorus there will be little difficulty with slipped tendon. Alfalfa leaf meal, wheat bran, wheat middlings, ground oats and fresh green feeds are natural sources of manganese. When the starting and developing mashers include these ingredients with a liberal supply of green feed the amount of manganese is sufficient; if not, it may be supplied by adding a very small amount of a manganese compound to the mash.

Nutritional roup is caused by a deficiency of vitamin A and affects the air passages of the head, often causing a discharge from the eyes and nostrils and swollen sinuses. Some of the best sources of vitamin A are alfalfa leaf meal, fresh green feed and yellow corn. It may also be supplied by adding a high grade fish oil or other commercial vitamin A carrier to the mash.

Diseases due to nutritional deficiency may be prevented by rations containing a sufficient amount of vitamins and a proper balance of minerals to supply the needs of the birds.—Missouri Bulletin Number 41.

Tolerance of Chicks for Fat

The tolerance of chicks for soybean oil is reported by Earl W. Henderson, assistant professor of poultry husbandry at Michigan State College, and W. E. Irwin, former research fellow in poultry husbandry at Iowa's agricultural experiment station, from data procured from an experiment utilizing White Leghorn chicks from the Iowa State College flock, selected on the 22nd day of incubation, and divided, at random, into lots of 40-50 chicks each. The chicks were weighed at bi-weekly intervals for the first eight weeks of their growth and observations were made of abnormalities at the time of weighing.

The 12 lots of chicks were fed soybean oil produced by the expeller process, in the following quantities: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, and 22 per cent of a basal mash diet.

The mean weight of chicks at eight weeks did not vary significantly until the ration contained 10 per cent of oil, after which a significant negative regression of weight appeared.

No significant difference in weight of livers, volume of gall-bladders, or histological sections of livers was obtained. The iodine numbers of composite samples of fat from the chicks varied from 74.0±0.64 for the control lot, to 120.0±0.64 for the 22% lot.

No odors or flavors of soybeans were detected in the broiled carcasses or fat residues of any of the chickens. Excessive moisture in the

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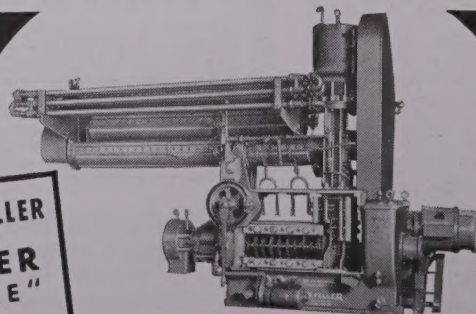
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feces and a higher ether extract content of feces was noted from the oil fed groups. Abnormal excessive molting beginning at the sixth week was noted in the lots fed more than 14 per cent of oil.

Some Results of Feeding Cackle to Chickens

By G. E. HEUSER, Cornell University, at the Cornell Nutrition School.

In the feeding of ground cackle to chicks no effect was observed on the average weight at six weeks of age until more than 2 per cent of ground cackle was eaten. However, characteristic lesions of cheesy material in the mouth and under the tongue were present even in the lot receiving $\frac{1}{4}$ per cent of ground cackle. The severity of these lesions increased with the amount of ground cackle fed. In the lot which received unground cackle ad libitum there was no effect upon the weight of the chicks even though they consumed the cackle to the extent of 3.5 per cent of their food intake. The only mortality up to six weeks of age was in the lot receiving 4 per cent of ground cackle.

In another experiment larger amounts of cackle were fed to older birds. At ten weeks of age, after cackle had been fed for four weeks, there were differences in weight in proportion to the amount of ground cackle fed from 5 to 20 per cent of the ration. All lots lost heavily the first week but seemed to build up a tolerance afterward. The severity of the characteristic mouth lesions, decreased respiration and decreased heart rate were in relation to the amount of ground cackle fed. The feces also became more moist with the increasing quantities of ground cackle. Again as with the young chicks the unground cackle fed ad libitum had no apparent effect upon the birds even though the consumption amounted to 5.9 per cent of the food intake.

Cackle is found usually in wheat. The percentage runs from none at all to about 2 per cent. The average cackle content in areas where

cackle commonly occurs in wheat in New York State is about $\frac{1}{2}$ per cent. On the basis of total food intake the wheat would constitute not more than 30-40 per cent of the ration. Hence, the amounts consumed under normal conditions would be extremely small.

It would seem that if the cackle is consumed in the whole form it does not have the harmful effects of ground cackle. Very large amounts of whole cackle were consumed without effect. Even tho the ground cackle showed harmful effects the quantities necessary to do this were considerably larger than would be consumed under average conditions.

Riboflavin and Curled-Toe Paralysis

Summarizing two experiments to determine the effect of some riboflavin supplements on chick growth and curled-toe paralysis, Thos. G. Culston and H. R. Bird, of the department of poultry husbandry, University of Maryland, point out:

The addition of dried skimmilk to a flavin deficient diet resulted in greater growth response per unit of flavin added than did the addition of crystalline riboflavin. The growth response per unit of flavin added was no greater when dried whey was fed than it was when crystalline riboflavin was fed.

Three hundred micrograms of crystalline riboflavin added to a ration containing approximately 175 micrograms of flavin per 100 grams of feed was not sufficient to prevent curled-toe paralysis. Likewise, approximately 415 micrograms of riboflavin in dried skimmilk or dried whey did not fully prevent curled-toe paralysis.

These experiments, partially supported by a grant from the American Dry Milk Institute, Inc., showed interesting differences in the results obtained from feeding dried whey as compared with those obtained from dried skim-milk.

Day-old chicks were divided in these experiments into groups of 12 each, and reared in steel batteries thru the five weeks of the experiment. They were fed a basal ration of 56% ground yellow corn, 20% ground whole wheat, 5% wheat bran, 12% water extracted casein, 3% molasses, and 1% each of ground oyster shell, salt, steamed bone meal, and cod liver oil. This ration assayed 175 micrograms of riboflavin per 100 grams by micro-biological assay method. This seemed exceedingly high for a basal ration but is probably as low as it is possible to obtain without resorting to a synthetic diet, since riboflavin in small quantities is widely distributed in poultry feedstuffs. The casein used was reduced in flavin content by autoclaving with 10 parts of water three times for 15 minutes at 15 pounds pressure.

In the first experiment, using only dried skimmilk and dried whey, the group receiving the lower level of flavin in dried whey exceeded in growth the group receiving the corresponding level of skimmilk at other levels in this experiment and at all levels in the second experiment the growth of the groups receiving skimmilk exceeded that of those receiving whey and crystalline riboflavin.

The difference in growth could not be accounted for on a basis of flavin content. The experimenters reached the conclusion that dried skimmilk possesses growth promoting properties greater than can be ascribed to its flavin content.

The second experiment demonstrated to the experimenters that addition of 300 micrograms of crystalline riboflavin per 100 grams to a basal ration already containing 175 micrograms per 100 grams was not sufficient to prevent curled-toe paralysis. Neither was the addition of skimmilk or whey to supply 415 micrograms per 100 grams sufficient. There was definite evidence that the riboflavin requirement for prevention of curled-toe paralysis is above that found in the literature for maximum growth.

The experimenters observe that curled-toe paralysis has been found frequently in commercial flocks in Maryland, and point out that these outbreaks have come at times

when considerable emphasis was laid on cheapening mashers by substitution and by reduction of relatively expensive riboflavin carrying ingredients. They point out danger in these substitutions and urge further study on flavin requirements and on the function of dietary factors other than flavin which may be involved. They felt forced to the conclusion that besides the riboflavin content of the ration there may be other things which influence the occurrence of curled-toe paralysis, in spite of demonstrations that a sufficient amount of crystalline riboflavin will prevent the disease.

Colorado Nutrition School

The Colorado State College of Agriculture and Mechanic Arts will offer its first school of nutrition to feed manufacturers and distributors Dec. 12 and 13 at Fort Collins, Colo.

Topics on the program are:

"Some Modern Conceptions of Nutrition," by L. E. Washburn; "Principles of Feed Manufacture," by C. W. Sievert; "Nutrition and its Relation to Live Stock Breeding," by R. C. Tom; "Vitamins from a Practical Point of View," by W. C. Tully; "Vitamins and Proteins from the Sea," by A. H. Mendonca; "The Mineral Problem in Nutrition," by L. E. Washburn; "Research," by P. D. V. Manning; "Soybean Oil Meal, its Value and its Uses," by J. W. Hayward; "Recent Advances in Poultry Nutrition," by H. S. Wilgus, Jr.; "Lamb and Cattle Feeding Experiments," by Ivan Watson; "Dairy Feeding Facts," by H. C. Dickey; "Hog and Horse Feeding," by Melvin Hazaleus.

At the dinner and smoker Thursday evening the speaker will be R. M. Green, president of the College.

"Information Please" style of discussion will be used. Everyone is expected to bring in questions or problems. These are to be written and deposited, unsigned, in a special question box at any time during the school. The master of ceremonies presents these questions, one at a time, to members of the board of experts. This board is composed largely of Colorado feed men. If there is any question regarding the answer given, a board of judges passes on its correctness.

All persons attending the school must register. Badges with name and address will be issued at time of registration. Advance notice of attendance is requested in order that proper reservations may be made for classroom space.

The registration fee for this school is \$2. This will be used to defray expenses and to build up a reserve fund in order to obtain authorities on nutrition from out-of-state colleges and experiment stations in future years.

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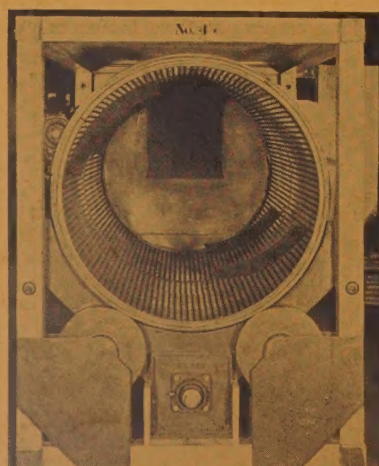
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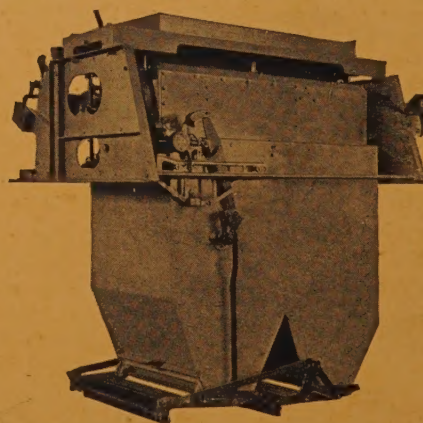
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